

GoldStar

SERVICE MANUAL

MODEL : DVD5185(DV7311E4L)

GoldStar

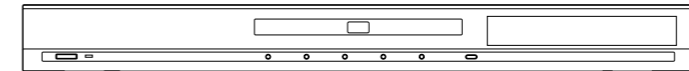
# DVD VIDEO PLAYER

## SERVICE MANUAL

MODEL : DVD5185(DV7311E4L)

### CAUTION

BEFORE SERVICING THE UNIT, READ THE "SAFETY PRECAUTIONS" IN THIS MANUAL.



P/NO : 3829RHP012L

JANUARY, 2003

LG Electronics Inc.

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# SECTION 1

## SUMMARY

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# PRODUCT SAFETY SERVICING GUIDELINES FOR VIDEO PRODUCTS

**CAUTION :** DO NOT ATTEMPT TO MODIFY THIS PRODUCT IN ANY WAY. NEVER PERFORM CUSTOMIZED INSTALLATIONS WITHOUT MANUFACTURER'S APPROVAL. UNAUTHORIZED MODIFICATIONS WILL NOT ONLY VOID THE WARRANTY, BUT MAY LEAD TO YOUR BEING LIABLE FOR ANY RESULTING PROPERTY DAMAGE OR USER INJURY.

SERVICE WORK SHOULD BE PERFORMED ONLY AFTER YOU ARE THOROUGHLY FAMILIAR WITH ALL OF THE FOLLOWING SAFETY CHECKS AND SERVICING GUIDELINES. TO DO OTHERWISE, INCREASES THE RISK OF POTENTIAL HAZARDS AND INJURY TO THE USER.

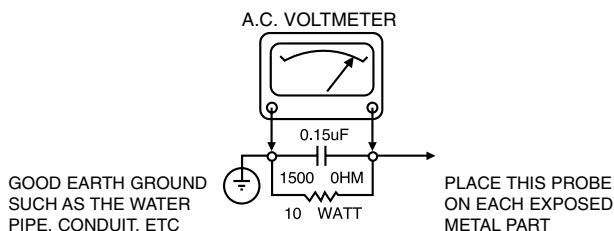
WHILE SERVICING, USE AN ISOLATION TRANSFORMER FOR PROTECTION FROM A.C. LINE SHOCK.

## SAFETY CHECKS


AFTER THE ORIGINAL SERVICE PROBLEM HAS BEEN CORRECTED, A CHECK SHOULD BE MADE OF THE FOLLOWING.


### SUBJECT : FIRE & SHOCK HAZARD

1. BE SURE THAT ALL COMPONENTS ARE POSITIONED IN SUCH A WAY AS TO AVOID POSSIBILITY OF ADJACENT COMPONENT SHORTS. THIS IS ESPECIALLY IMPORTANT ON THOSE MODULES WHICH ARE TRANSPORTED TO AND FROM THE REPAIR SHOP.
2. NEVER RELEASE A REPAIR UNLESS ALL PROTECTIVE DEVICES SUCH AS INSULATORS, BARRIERS, COVERS, SHIELDS, STRAIN RELIEFS, POWER SUPPLY CORDS, AND OTHER HARDWARE HAVE BEEN REINSTALLED PER ORIGINAL DESIGN. BE SURE THAT THE SAFETY PURPOSE OF THE POLARIZED LINE PLUG HAS NOT BEEN DEFEATED.
3. SOLDERING MUST BE INSPECTED TO DISCOVER POSSIBLE COLD SOLDER JOINTS, SOLDER SPLASHES OR SHARP SOLDER POINTS. BE CERTAIN TO REMOVE ALL LOOSE FOREIGN PARTICLES.
4. CHECK FOR PHYSICAL EVIDENCE OF DAMAGE OR DETERIORATION TO PARTS AND COMPONENTS. FOR FRAYED LEADS, DAMAGED INSULATION (INCLUDING A.C. CORD), AND REPLACE IF NECESSARY FOLLOW ORIGINAL LAYOUT, LEAD LENGTH AND DRESS.
5. NO LEAD OR COMPONENT SHOULD TOUCH A RECEIVING TUBE OR A RESISTOR RATED AT 1 WATT OR MORE. LEAD TENSION AROUND PROTRUDING METAL SURFACES MUST BE AVOIDED.
6. ALL CRITICAL COMPONENTS SUCH AS FUSES, FLAMEPROOF RESISTORS, CAPACITORS, ETC. MUST BE REPLACED WITH EXACT FACTORY TYPES, DO NOT USE REPLACEMENT COMPONENTS OTHER THAN THOSE SPECIFIED OR MAKE UNRECOMMENDED CIRCUIT MODIFICATIONS.
7. AFTER RE-ASSEMBLY OF THE SET ALWAYS PERFORM AN A.C. LEAKAGE TEST ON ALL EXPOSED METALLIC PARTS OF THE CABINET, (THE CHANNEL SELECTOR KNOB, ANTENNA TERMINALS, HANDLE AND SCREWS) TO BE SURE THE SET IS SAFE TO OPERATE WITHOUT DANGER OF ELECTRICAL SHOCK. DO NOT USE A LINE ISOLATION TRANSFORMER DURING THIS TEST USE AN A.C. VOLT-METER, HAVING 5000 OHMS PER VOLT OR MORE SENSITIVITY, IN THE FOLLOWING MANNER; CONNECT A 1500 OHM 10 WATT RESISTOR, PARALLELED BY A .15 MFD. 150.V A.C TYPE CAPACITOR BETWEEN A KNOWN GOOD EARTH GROUND (WATER PIPE, CONDUIT, ETC.) AND THE EXPOSED METALLIC PARTS, ONE AT A TIME. MEASURE THE A.C. VOLTAGE ACROSS THE COMBINATION OF 1500 OHM RESISTOR AND .15 MFD CAPACITOR. REVERSE THE A.C. PLUG AND REPEAT A.C. VOLTAGE MEASUREMENTS FOR EACH EXPOSED METALLIC PART. VOLTAGE MEASURED MUST NOT EXCEED 75 VOLTS R.M.S. THIS CORRESPONDS TO 0.5 MILLIAMPS A.C. ANY VALUE EXCEEDING THIS LIMIT CONSTITUTES A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED IMMEDIATELY.



### SUBJECT: GRAPHIC SYMBOLS

 THE LIGHTNING FLASH WITH APPOWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.

 THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF IMPORTANT SAFETY INFORMATION IN SERVICE LITERATURE.

### SUBJECT : X-RADIATION

1. BE SURE PROCEDURES AND INSTRUCTIONS TO ALL SERVICE PERSONNEL COVER THE SUBJECT OF X-RADIATION. THE ONLY POTENTIAL SOURCE OF X-RAYS IN CURRENT T.V. RECEIVERS IS THE PICTURE TUBE. HOWEVER, THIS TUBE DOES NOT EMIT X-RAYS WHEN THE HIGH VOLTAGE IS AT THE FACTORY SPECIFIED LEVEL. THE PROPER VALUE IS GIVEN IN THE APPLICABLE SCHEMATIC. OPERATION AT HIGHER VOLTAGES MAY CAUSE A FAILURE OF THE PICTURE TUBE OR HIGH VOLTAGE SUPPLY AND, UNDER CERTAIN CIRCUMSTANCES, MAY PRODUCE RADIATION IN EXCESS OF DESIRABLE LEVELS.
2. ONLY FACTORY SPECIFIED C.R.T. ANODE CONNECTORS MUST BE USED. DEGAUSSING SHIELDS ALSO SERVE AS X-RAY SHIELD IN COLOR SETS, ALWAYS RE-INSTALL THEM.
3. IT IS ESSENTIAL THAT SERVICE PERSONNEL HAVE AVAILABLE AN ACCURATE AND RELIABLE HIGH VOLTAGE METER. THE CALIBRATION OF THE METER SHOULD BE CHECKED PERIODICALLY AGAINST A REFERENCE STANDARD, SUCH AS THE ONE AVAILABLE AT YOUR DISTRIBUTOR.
4. WHEN THE HIGH VOLTAGE CIRCUITRY IS OPERATING PROPERLY THERE IS NO POSSIBILITY OF AN X-RADIATION PROBLEM. EVERY TIME A COLOR CHASSIS IS SERVICED, THE BRIGHTNESS SHOULD BE RUN UP AND DOWN WHILE MONITORING THE HIGH VOLTAGE WITH A METER TO BE CERTAIN THAT THE HIGH VOLTAGE DOES NOT EXCEED THE SPECIFIED VALUE AND THAT IT IS REGULATING CORRECTLY, WE SUGGEST THAT YOU AND YOUR SERVICE ORGANIZATION REVIEW TEST PROCEDURES SO THAT VOLTAGE REGULATION IS ALWAYS CHECKED AS A STANDARD SERVICING PROCEDURE. AND THAT THE HIGH VOLTAGE READING BE RECORDED ON EACH CUSTOMER'S INVOICE.
5. WHEN TROUBLESHOOTING AND MAKING TEST MEASUREMENTS IN A PRODUCT WITH A PROBLEM OF EXCESSIVE HIGH VOLTAGE, AVOID BEING UNNECESSARILY CLOSE TO THE PICTURE TUBE AND THE HIGH VOLTAGE SUPPLY. DO NOT OPERATE THE PRODUCT LONGER THAN IS NECESSARY TO LOCATE THE CAUSE OF EXCESSIVE VOLTAGE.
6. REFER TO HV. B+ AND SHUTDOWN ADJUSTMENT PROCEDURES DESCRIBED IN THE APPROPRIATE SCHEMATIC AND DIAGRAMS (WHERE USED).

### SUBJECT: IMPLSION

1. ALL DIRECT VIEWED PICTURE TUBES ARE EQUIPPED WITH AN INTEGRAL IMPLSION PROTECTION SYSTEM, BUT CARE SHOULD BE TAKEN TO AVOID DAMAGE DURING INSTALLATION, AVOID SCRATCHING THE TUBE. IF SCRATCHED REPLACE IT.
2. USE ONLY RECOMMENDED FACTORY REPLACEMENT TUBES.

### SUBJECT : TIPS ON PROPER INSTALLATION

1. NEVER INSTALL ANY PRODUCT IN A CLOSED-IN RECESS, CUBBY-HOLE OR CLOSELY FITTING SHELF SPACE. OVER OR CLOSE TO HEAT DUCT, OR IN THE PATH OF HEATED AIR FLOW.
2. AVOID CONDITIONS OF HIGH HUMIDITY SUCH AS: OUTDOOR PATIO INSTALLATIONS WHERE DEW IS A FACTOR, NEAR STEAM RADIATORS WHERE STEAM LEAKAGE IS A FACTOR, ETC.
3. AVOID PALCEMENT WHERE DRAPERIES MAY OBSTRUCT REAR VENTING. THE CUSTOMER SHOULD ALSO AVOID THE USE OF DECORATIVE SCARVES OR OTHER COVERINGS WHICH MIGHT OBSTRUCT VENTILATION.
4. WALL AND SHELF MOUNTED INSTALLATIONS USING A COMMERCIAL MOUNTING KIT. MUST FOLLOW THE FACTORY APPROVED MOUNTING INSTRUCTIONS A PRODUCT MOUNTED TO A SHELF OR PLATFORM MUST RETAIN ITS ORIGINAL FEET (OR THE EQUIVALENT THICKNESS IN SPACERS) TO PROVIDE ADEQUATE AIR FLOW ACROSS THE BOTTOM, BOLTS OR SCREWS USED FOR FASTENERS MUST NOT TOUCH ANY PARTS OR WIRING. PERFORM LEAKAGE TEST ON CUSTOMIZED INSTALLATIONS.
5. CAUTION CUSTOMERS AGAINST THE MOUNTING OF A PRODUCT ON SLOPING SHELF OR A TILTED POSITION, UNLESS THE PRODUCT IS PROPERLY SECURED.
6. A PRODUCT ON A ROLL-ABOUT CART SHOULD BE STABLE ON ITS MOUNTING TO THE CART. CAUTION THE CUSTOMER ON THE HAZARDS OF TRYING TO ROLL A CART WITH SMALL CASTERS ACROSS THRESHOLDS OR DEEP PILE CARPETS.
7. CAUTION CUSTOMERS AGAINST THE USE OF A CART OR STAND WHICH HAS NOT BEEN LISTED BY UNDERWRITERS LABORATORIES, INC. FOR USE WITH THEIR SPECIFIC MODEL OF TELEVISION RECEIVER OR GENERALLY APPROVED FOR USE WITH T.V.'S OF THE SAME OR LARGER SCREEN SIZE.
8. CAUTION CUSTOMERS AGAINST THE USE OF EXTENSION CORDS, EXPLAIN THAT A FOREST OF EXTENSIONS SPROUTING FROM A SINGLE OUTLET CAN LEAD TO DISASTROUS CONSEQUENCES TO HOME AND FAMILY.

# SERVICING PRECAUTIONS

**CAUTION :** Before servicing the DVD covered by this service data and its supplements and addends, read and follow the **SAFETY PRECAUTIONS**. **NOTE :** if unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions in this publication, always follow the safety precautions.

*Remembers Safety First:*

## General Servicing Precautions

1. Always unplug the DVD AC power cord from the AC power source before:
  - (1) Removing or reinstalling any component, circuit board, module, or any other assembly.
  - (2) Disconnection or reconnecting any internal electrical plug or other electrical connection.
  - (3) Connecting a test substitute in parallel with an electrolytic capacitor.

**Caution :** A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
2. Do not spray chemicals on or near this DVD or any of its assemblies.
3. Unless specified otherwise in this service data, clean electrical contacts by applying an appropriate contact cleaning solution to the contacts with a pipe cleaner, cotton-tipped swab, or comparable soft applicator. Unless specified otherwise in this service data, lubrication of contacts is not required.
4. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service manual might be equipped.
5. Do not apply AC power to this DVD and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
6. Always connect test instrument ground lead to the appropriate ground before connection the test instrument positive lead. Always remove the test instrument ground lead last.

## Insulation Checking Procedure

Disconnect the attachment plug from the AC outlet and turn the power on. Connect an insulation resistance meter(500V) to the blades of the attachment plug. The insulation resistance between each blade of the attachment plug and accessible conductive parts (Note 1) should be more than 1M-ohm.

**Note 1 :** Accessible Conductive Parts including Metal panels, Input terminals, Earphone jacks, etc.

## Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field effect transistors and semiconductor chip components.

The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified a "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charge sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil, or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**Caution :** Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Normally harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

# SPECIFICATIONS

## • GENERAL

Power requirements	AC 110-240V , 50/60 Hz
Power consumption	14W
Dimensions (approx.)	430 X 55 X 242 mm (w x h x d)
Mass (approx.)	2.4 kg
Operating temperature	5°C to 35°C (41°F to 95°F)
Operating humidity	5 % to 90 %

## • SYSTEM

Laser	Semiconductor laser, wavelength 650 nm
Signal system	PAL/NTSC
Frequency response	DVD (PCM 96 kHz): 8 Hz to 44 kHz DVD (PCM 48 kHz): 8 Hz to 22 kHz CD: 8 Hz to 20 kHz
Signal-to-noise ratio	More than 100dB (ANALOG OUT connectors only)
Harmonic distortion	Less than 0.008%
Dynamic range	More than 100 dB (DVD) More than 95 dB (CD)

## • OUTPUTS

VIDEO OUT	1 Vp-p 75 $\Omega$ , sync negative, RCA jack x 1 / SCART (TO TV)
Audio output (digital audio)	0.5 V (p-p), 75 $\Omega$ , RCA jack x 1
Audio output (analog audio)	2.0 Vrms (1 KHz, 0 dB), 330 $\Omega$ , RCA jack (L, R) x 1 / SCART (TO TV)

## • ACCESSORY

Video cable .....	1
Audio cable .....	1
Remote control.....	1
Batteries.....	2

- Design and specifications are subject to change without notice.

**SECTION 2**

**CABINET & MAIN CHASSIS**

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# DISASSEMBLY

## CAUTION BEFORE STARTING SERVICING

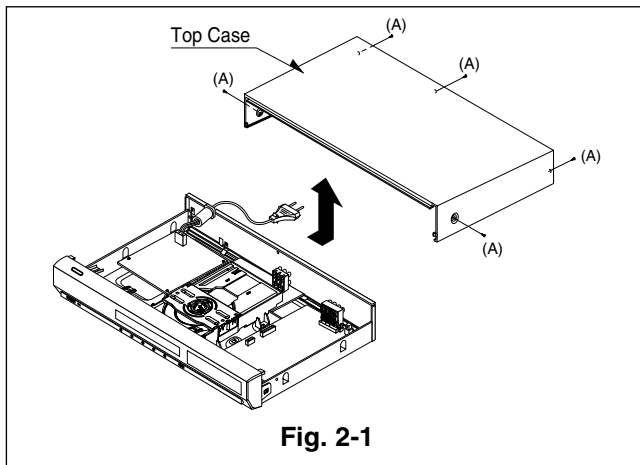
Electronic parts are susceptible to static electricity and may easily be damaged, so do not forget to take a proper grounding treatment as required.

Many screws are used inside the unit. To prevent missing, dropping, etc. of the screws, always use a magnetized screw driver in servicing. Several kinds of screws are used and some of them need special cautions. That is, take care of the tapping screws securing molded parts and fine pitch screws used to secure metal parts. If they are used improperly, the screw holes will be easily damaged and the parts can not be fixed.

## CABINET DISASSEMBLY

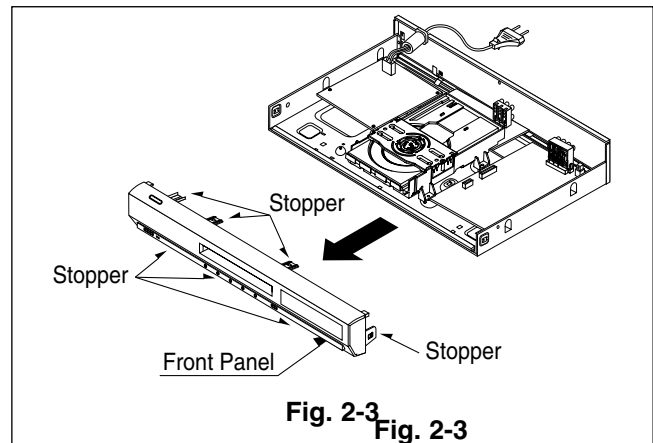
### 1. Top Case

1. Release 5 screws (A). (See Fig. 2-1)
2. Lift the top case with holding the back of it, and remove it in the direction of the arrow



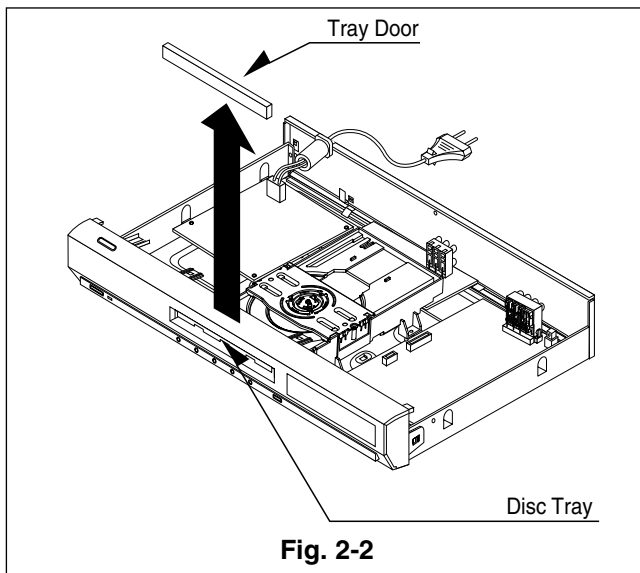
### 3. Front Panel

1. Eject the disc tray. (See Fig. 2-2)
2. Remove the tray door. (See Fig. 2-2)
3. Pull the front panel toward you while pressing 7 stoppers to disengage, and remove the front panel. (See Fig. 2-3)



### 2. Tray Door

1. Eject the disc tray.
2. Lift up the tray door in the direction of the arrow.

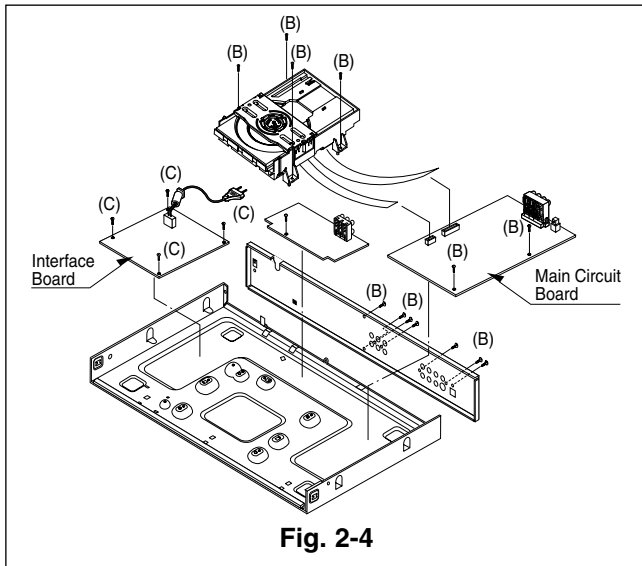


## CIRCUIT BOARD DISASSEMBLY

**Note:** Before removing the main circuit board, be sure to shortcircuit the laserdiode output land.  
After replacing the main circuit board, open the land after inserting the flexible connector.  
(Refer to Mechanism Disassembly)

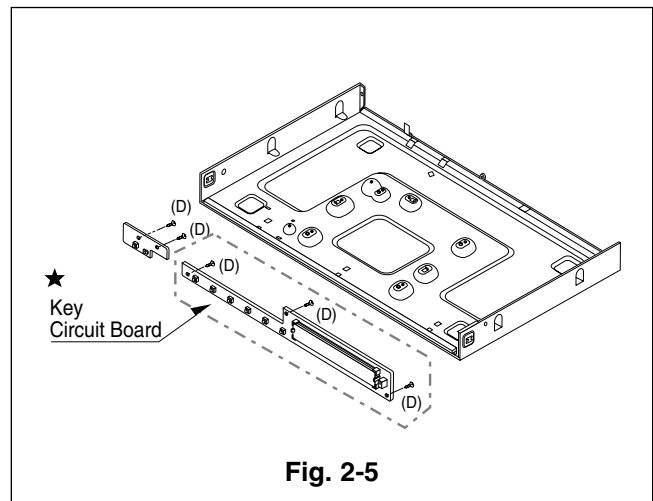
### 1. Disassembling of Main Circuit Board and Interface Board

1. Remove the top case.(See Fig. 2-1)
2. Remove 13 screw (B).
3. Remove the Deck from Main Circuit Board.
4. Remove Main Circuit Board from Interface Board.
5. Remove 4 screw (C).
6. Remove Interface Board from the chassis.



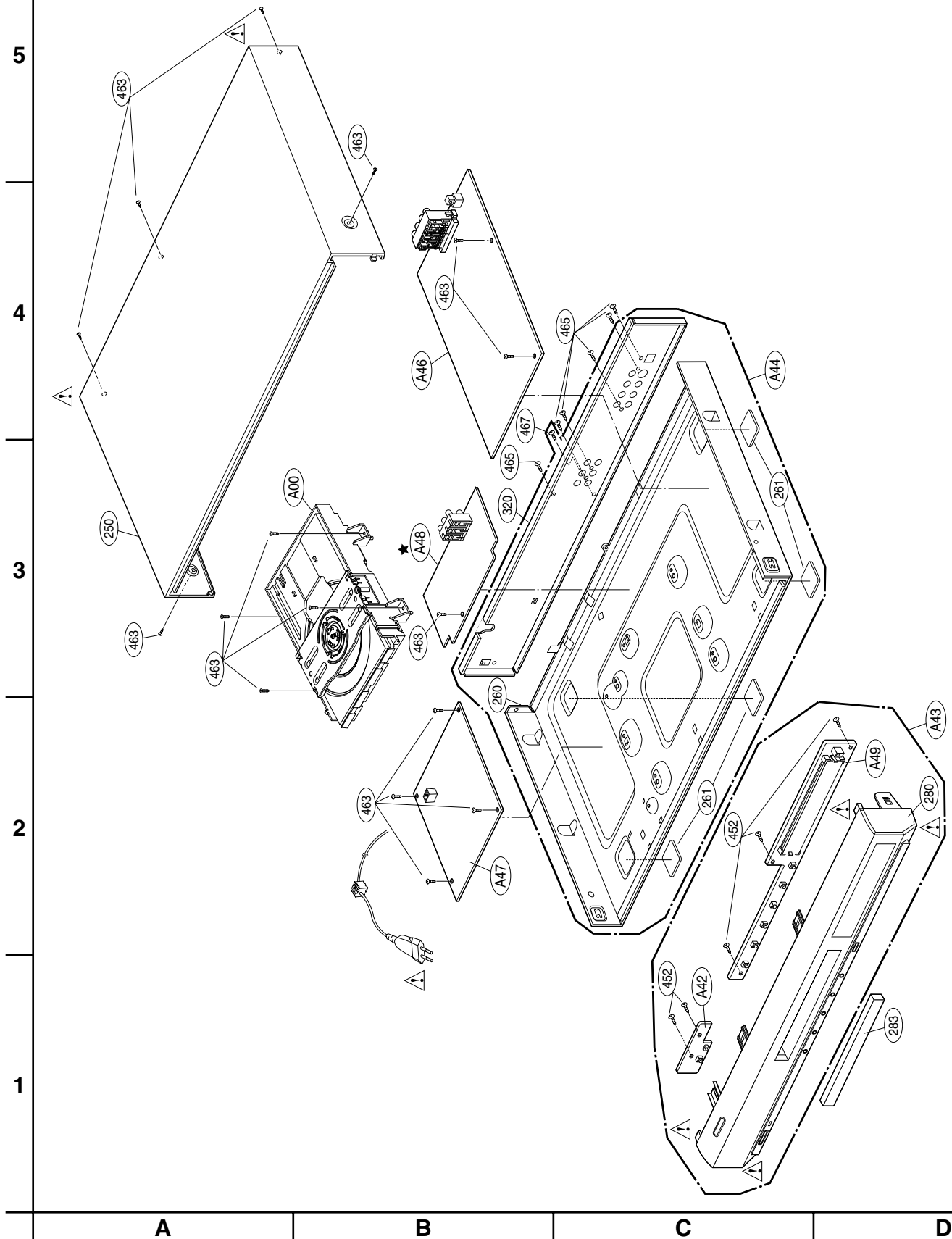
### 2. Digitron and Key Circuit Board

1. Remove the front panel.(See Fig. 2-3)
2. Release 5 screws (D), and remove the digitron circuit board.



# EXPLODED VIEWS

## 1. Cabinet and Main Frame Section



## 2. Deck Mechanism Section

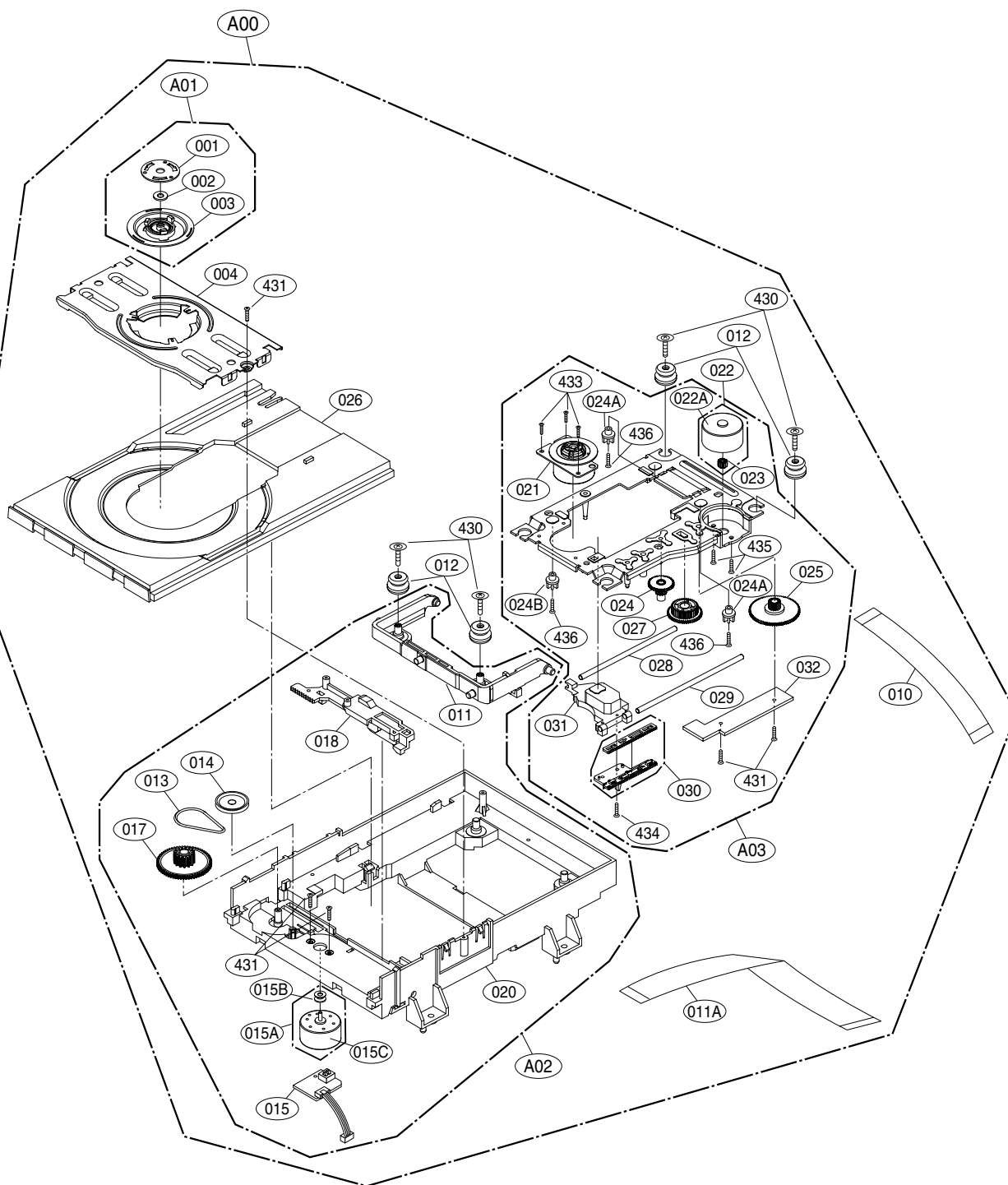
5

4

3

2

1



A

B

C

D

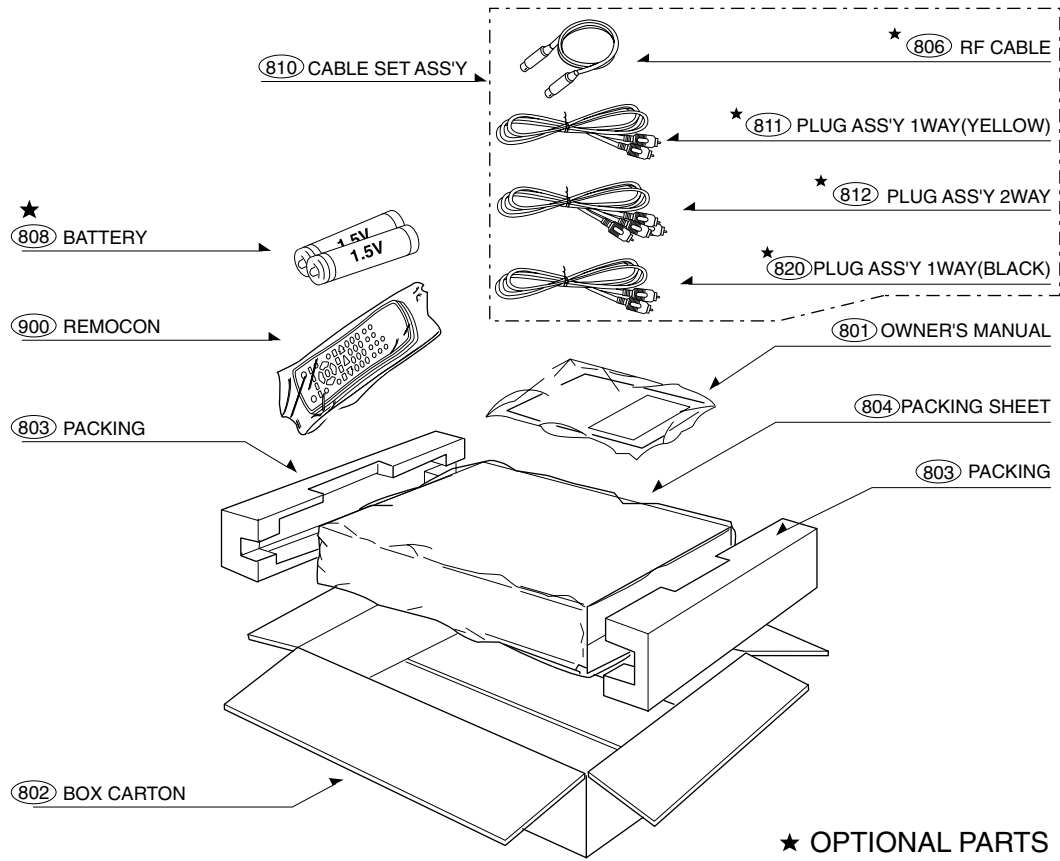
## • Cabinet and Main Frame Section Part List

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
<b>ASSEMBLY PARTS SECTION</b>							
		A42	6871R-5723A	O	PWB(PCB) ASSEMBLY,TOTAL	DV7000S 3TOOL KEY SH	
		A43	3501RF2990A	O	BOARD ASSEMBLY	DVD DV7311E4L HA3GLG +FRONT	
		A44	3141R-D003F	O	CHASSIS ASSEMBLY	DV7510E LSI,MTK 55MM	NSP
		A46	6885R-1000L	O	SUB PWB(PCB) ASSEMBLY	DV7311E4L HA3GLG LG, R2, ENG_S	
		A47	6871R-7604C	O	PWB(PCB) ASSEMBLY,TOTAL	DV7000S SMPS SH 220V(CE)	
		A48	6871R-7601N	O	PWB(PCB) ASSEMBLY,TOTAL	DV7000S LSI SCART SH	
		A49	6871R-5713A	O	PWB(PCB) ASSEMBLY,TOTAL	DV7000S 3TOOL TIMER SH	
<b>PARTS SECTION</b>							
		250	3110R-D001A	O	CASE	DV7000 PRESS 430-55(A288G)	
		260	3140R-D002A	O	CHASSIS	DV7000 PRESS MAIN	
		261	5040R-0069D	O	RUBBER	FOOT(SILICONE SPONGE DS-08 T=	
		280	3721R-F327A	O	PANEL ASSEMBLY,FRONT(NORMAL PA	DV7300 EVENT	
		283	3580R-T085A	O	DOOR,CASE	DVD DV7000 MOLD VCD	
		300	6410RCHX02A	O	POWER CORD	CE-503/JL201B JIULAN/CHAUS VD	
		320	3720R-D072F	O	PANEL,VIDEO	DVD DV7510E PRESS LSI,MTK 55MM	
<b>SCREW</b>							
		452	353-051A	O	SCREW	SPECIAL	
		463	353-051G	O	SCREW,DRAWING	+ 2 D3.0 L8.0 MSWR3/FN TB ROUN	
		465	353-046K	O	SCREW	SPECIAL (3X10 B.K)	
		467	353-046N	O	SCREW,DRAWING	SPECIAL(3X8 BK.)	

## • Deck Mechanism Section Part List

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
<b>ASSEMBLY PARTS SECTION</b>							
		A00	6721RH0370A	O	DECK ASSEMBLY,VIDEO	DP-7R(55MM) - SH	NSP
		A01	4861R-0016B	O	CLAMP ASSEMBLY	DISC DP7 - SH	
		A02	3041R-M003B	O	BASE ASSEMBLY	MAIN(DP-7R) - SH	
		A03	3041R-M002B	O	BASE ASSEMBLY	SLED(DP-7RM, 2LD 502W DC W/O S	
<b>PARTS SECTION</b>							
		001	3300R-0547A	O	PLATE	CLAMP	NSP
		002	5016H-1016B	O	MAGNET	CLAMP(LDM-R608,10*5,1*1.5T)	NSP
		003	4860R-0021A	O	CLAMP	UPPER DP7	NSP
		004	4930R-0365A	O	HOLDER	CLAMP DP7	
		010	6850R-GF10B	O	CABLE,FLAT	P=1.0 FFC UL2896(0.05X0.65) 6	
		011	3210R-M001A	O	FRAME	UP/DOWN DP7 MOLD	
		011A	6850R-JW24Y	O	CABLE,FLAT	P=1.0 FFC UL2896(0.035X0.7) 23	
		012	5040R-0075D	O	RUBBER	DAMPER DP7 (YAMAUCHI 30)	
		013	4400H-1009A	O	BELT	GM-RT1332A	
		014	4470R-0055A	O	GEAR	PULLEY	
		015	6871R-9248B	O	PWB(PCB) ASSEMBLY,TOTAL	DP7 LOADING - SH	
		015A	4681R-A003B	O	MOTOR ASSEMBLY	LOADING DP7 - SH	
		015B	4560R-0008A	O	PULLEY	MOTOR	
		015C	4680R-E007A	O	MOTOR(MECH)	FEEDING BC23B01 SANKYO FOR DVD	
		017	4470R-0056A	O	GEAR	LOADING	
		018	4974R-0046A	O	GUIDE	UP/DOWN(DP-7)	
		020	3040R-M004A	O	BASE	MAIN(DP7-55MM) MOLD	
		021	4680R-C010A	O	MOTOR(MECH)	SPINDLE JCL9B78 SANKYO FOR DVD	
		022	4681R-B005B	O	MOTOR ASSEMBLY	FEEDING DP7 - SH	
		022A	4680R-E008A	O	MOTOR(MECH)	FEEDING RF-300EA-1D390 MABUCHI	
		023	4470R-0119A	O	GEAR	FEED MOTOR	
		024	4470R-0124A	O	GEAR	PINION DP7	
		024A	5006R-0040A	O	CAP	SKEW (T) DP7	
		024B	5006R-0039A	O	CAP	SKEW (R) DP7	
		025	4470R-0122A	O	GEAR	MIDDLE A DP7	
		026	3390R-0015A	O	TRAY	DISC DP7	
		027	4470R-0123A	O	GEAR	MIDDLE B DP7	
		028	4370R-0083A	O	SHAFT	DECK/MECHA DP7 OTHER PU-T	
		029	4370R-0075A	O	SHAFT	PU	
		030	4471R-0010A	O	GEAR ASSEMBLY	RACK DP7	
		031	6716DPH005A	O	PICK UP,DVD	PVR-502W MITSUMI PLAYER H/HIGH	
		032	6871R-9243B	O	PWB(PCB) ASSEMBLY,TOTAL	DP7 FEEDING - SH	
<b>SCREW</b>							
		430	1SZZR-0046A	O	SCREW,DRAWING	+ 1 D2.0 L6.0 SWRCH16A/FZY	
		431	1SZZH-1007B	O	SCREW,DRAWING	+ D2.0 6MM SWRCH16A/ZNBK 4MM 1	
		433	1SZZR-0050A	O	SCREW,DRAWING	+ 1 D2.0 L4.5 SWRCH16A/ZNY S-T	
		434	1SZZR-0023B	O	SCREW,DRAWING	+ 1 D1.7 L6.0 SWRCH16A/FZY RAC	
		435	1SZZR-0011A	O	SCREW,	MACHINE	
		436	1SZZR-0047A	O	SCREW,DRAWING	+ 1 D1.4 L4.5 SWRCH16A/FZY TAP	

### 3. Packing Accessory Section



#### • Packing Accessory Section Part List

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
		801	3835RS0050L	O	INSTRUCTION ASSEMBLY	DVD DV7311E4L HA3GLG	
		802	3890R-H802W	O	BOX	DV7311E4M HA3GLG SWW3-A 0.870	
		803	3920R-E066A	O	PACKING,CASING	DV7000 0.02 68 EPS 10 1165 238	
		804	292-053B	O	BAG	SOFT(MIDI)	NSP
		808	841-0021	O	BATTERY,MN	ER03X HI WATT 1.5V .MA/H AAA	
		810	6851RP0003N	O	CABLE ASSY,RF	DVD CABLE ASSY,RCA USING AREA	
		811	6611R1G001A	O	PLUG ASSY	1WAY YELLOW GLOBAL	
		812	6611R2G001A	O	PLUG ASSY	2WAY RED/WHITE GLOBAL	
		900	6711R1P063C	O	REMOTE CONTROLLER ASSEMBLY	N6 DV7311E4L HA3GLG NO BRAND	

# SECTION 3

## ELECTRICAL

### CONTENTS

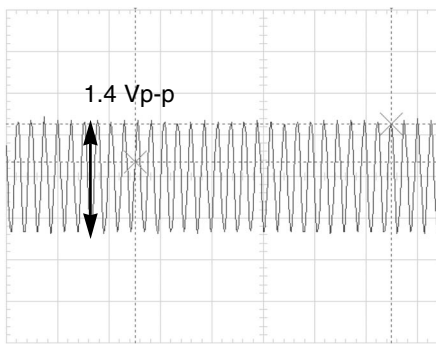
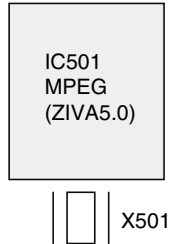
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# ELECTRICAL TROUBLESHOOTING GUIDE & WAVEFORMS

## 1. System Clock X501 (13.5Mhz)

### NORMAL

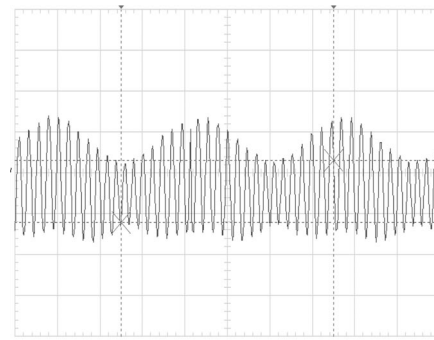
- 1) MPEG IC start oscilating after being installed VCC



X501 : 13.5 Mhz

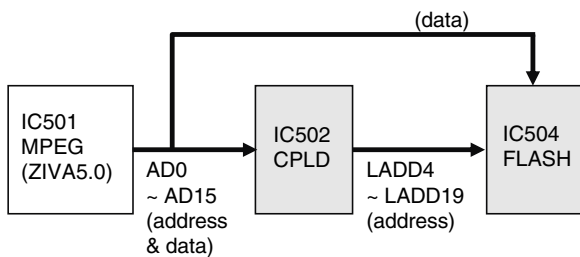
### ABNORMAL

- 1) Logo Picture doesn't appear
- 2) Initial step fail
  - \* Initial step : power cord in -> green LED -> red LED -> power key input -> Logo picture



X501 : there is distortion

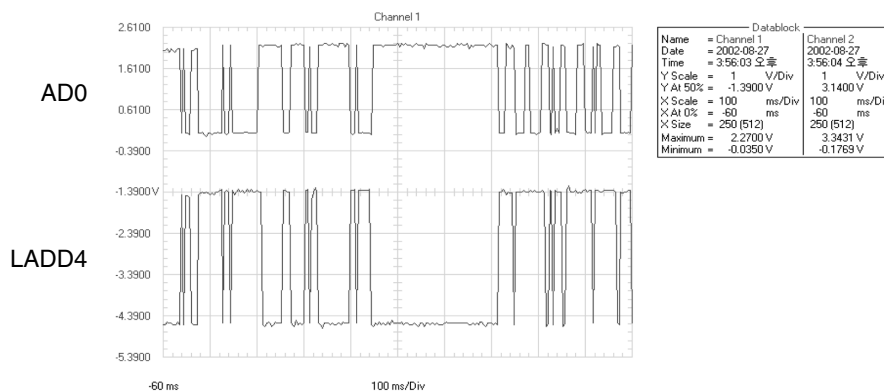
## 2. Initializing between CPLD and Flash



IC502 separate address from data & address and control the address sector of IC504.

If LADD4 ~ 19 don't appear on IC502, Initial step will fail and NO Logo picture on screen.

IC502 should be checked or be replaced...



### 3. Initializing between MPEG and SDRAM

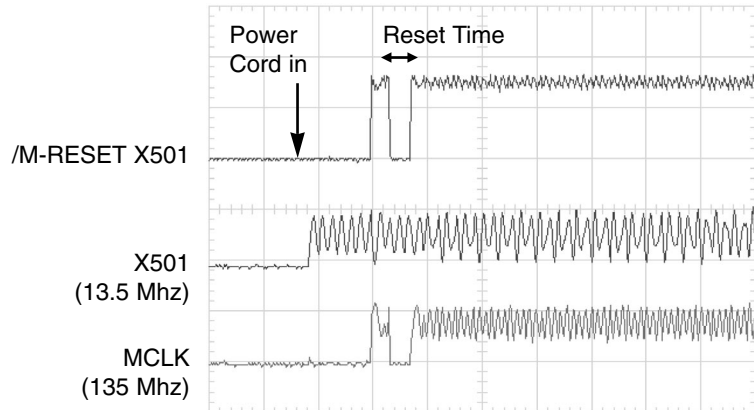
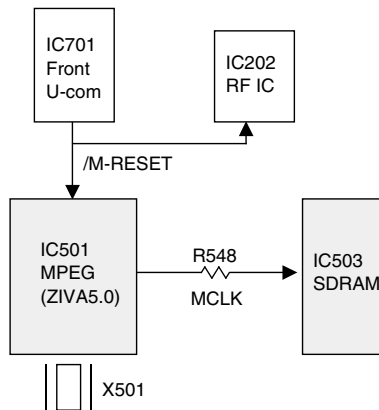
- 1) MPEG IC start oscilating(13.5Mhz)after being installed VCC
- 2) MPEG IC and RF IC get the /M - RESET signal from front U - com(IC701) and they are initial-ized.
- 3) And then, MPEG IC generate MCLK and send to SDRAM

- 4) MPEG IC and SDRAM are synchronized by MCLK, they communicate between.

If oscilation(13.5Mhz) don't appear, check The X-TAL and VCC and replace MPEG IC.

If MCLK don't appear, first cut the MCLK line (remove R548) and recheck.

Don't appear -> check MPEG IC or replace  
Appear -> check the SDRAM or replace



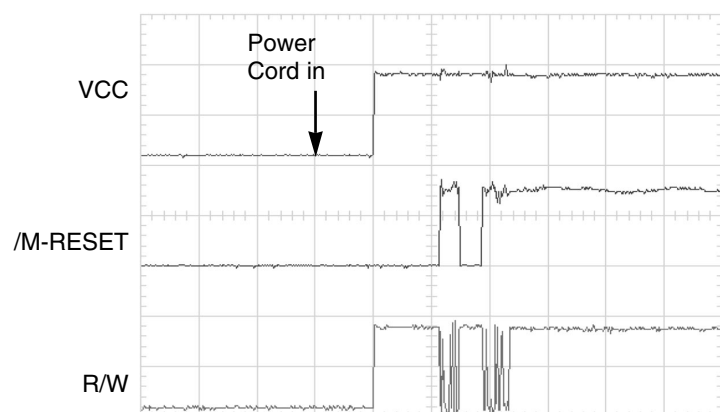
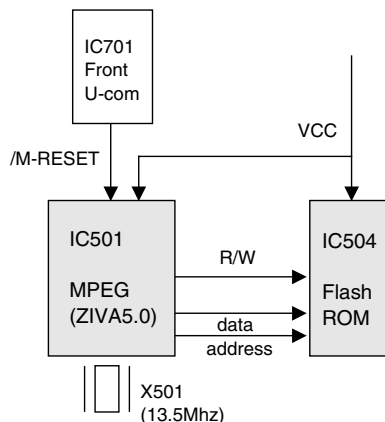
### 4. Initializing between MPEG and Flash

- 1) MPEG IC start oscilating(13.5Mhz) after being installed VCC
- 2) MPEG IC is initialized by /M - RESE T
- 3) MPEG IC send the R/W(read/write) signal before communicating with FLASH ROM

R/W signal should be confirmed by Flash or the next step will not continue.

As that result, the initial step(power cord in -> green LED -> red LED -> standby) will fail.

If R/W signal doesn't appear, check the VCC and replace the Flash ROM...

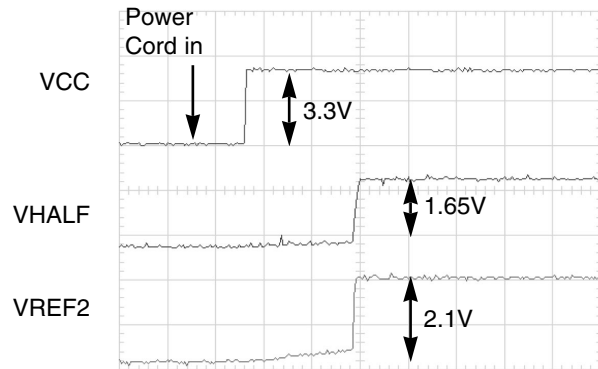
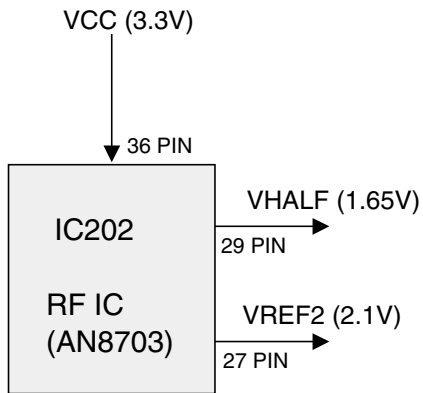


## 5. Reference Voltage 1

- 1) There are two kinds of reference voltage on RF IC
- 2) These are outputted from RF IC and 1.65V is used as reference of DSP IC 2.1V is used as reference of Pick - up

If these reference voltage don't appear, All kinds of servo control will fail.

So, should be checked first of all Check the RF IC and replace...



## 6. Reference Voltage 2

We can see how the reference voltage, mentioned previous page, will work on servo control..

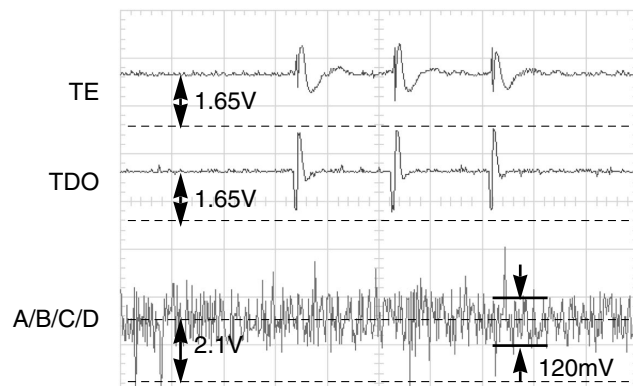
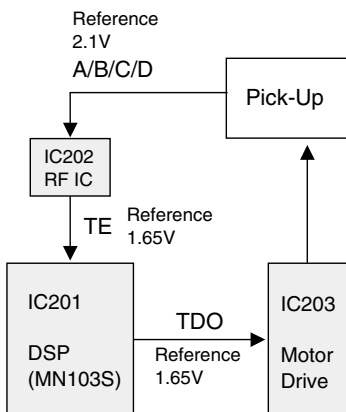
- 1) The DC level of RF signal from P/up is 2.1V
- 2) The DC level of TE and TDO is 1.65V
- 3) Correct DC level of these signal make servo work normally.

Even though, the reference voltage come out correctly from RF IC,

If A/B/C/D are not biased by 2.1V, and checking the P/up is needed.

If the DC level of TE is not 1.65V, check RF IC and replace it...

In case of TDO, procedure is same



## 7. Checking the initial step of M/D Ass'y

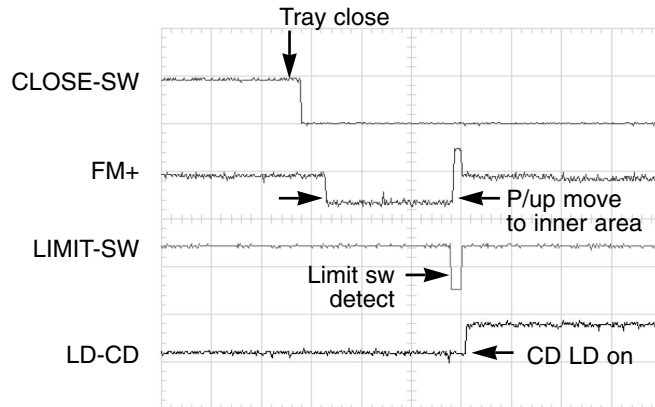
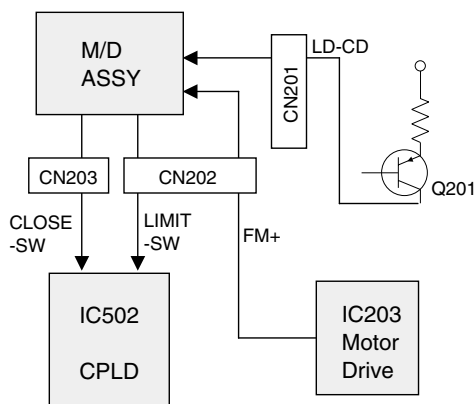
Let's look over the initial action of M/D...

- 1) When the tray is closed, CLOSE-SW should be changed from 5V to 0V and CPLD need to detect this change
- 2) Feeding Motor move the P/up to inner area until the LIMIT SW is detected
- 3) After CPLD detect the LIMIT SW, CD laser is turned on and go to the next step

4) if there is a DISC on the tray, the RF will be detected by the CD laser and go to next step..

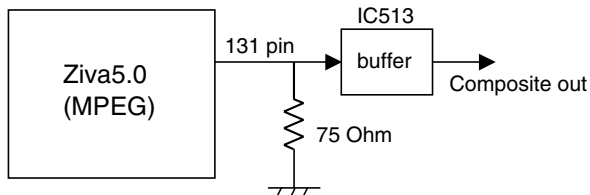
Check the CLOSE-SW and LIMIT-SW

if anything of the both is not detected, the next step won't go on. This means that even though there is a DISC on the tray the DISC will not rotate.



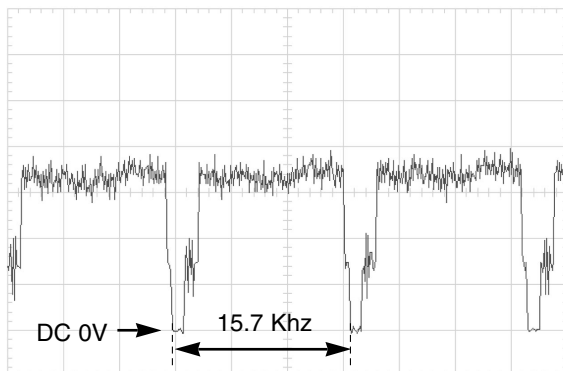
## 8. Checking the Video Signal

Check the followings

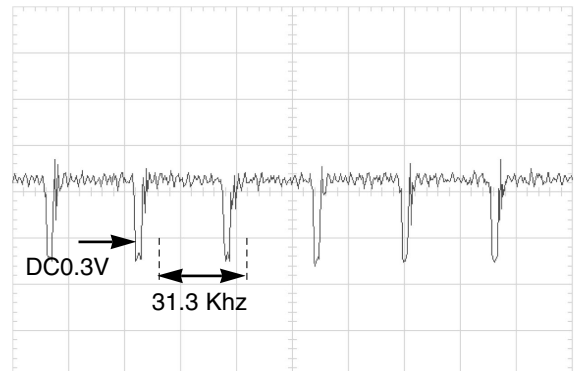


- 1) Check the video output mode. if the output mode is progressive - on, there is no composite signal. the output mode should be changed to progressive - off
- 2) Check the buffer IC and MPEG, and then replace.

Composite signal is normal --> Screen display OK



Composite signal is abnormal --> there is no screen on TV



## 9. Checking the first step of servo (1)

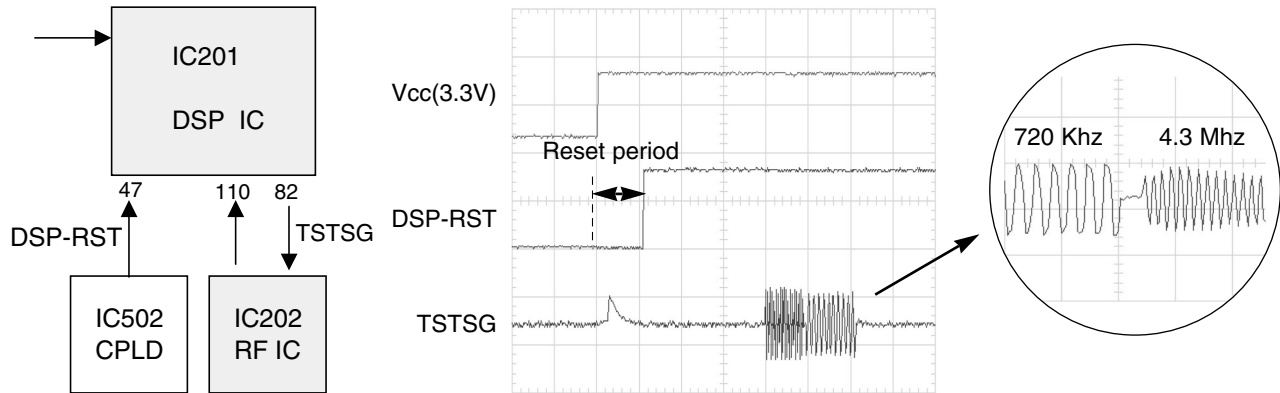
Let's look over the initial step of DSP

- 1) First. DSP IC receive the DSP - Reset from CPLD
- 2) This reset signal get DSP initialized and DSP is ready to do first step for servo
- 3) TSTSG from DSP is the test signal for checking the PLL- loop
- 4) RF IC regard this test signal as RF signal which is coming from P/up and send this signal to

DSP. DSP perform the procedure of PLL-loop by using this signal.

- 5) after checking the PLL-loop, the second step is followed. the second step will be explained on next page.....

if TSTSG doesn't appear, check DSP and replace. if the unit doesn't work normally, even though the both signals are OK. Check the RF IC and replace.



## 10. Checking the second step of servo (2)

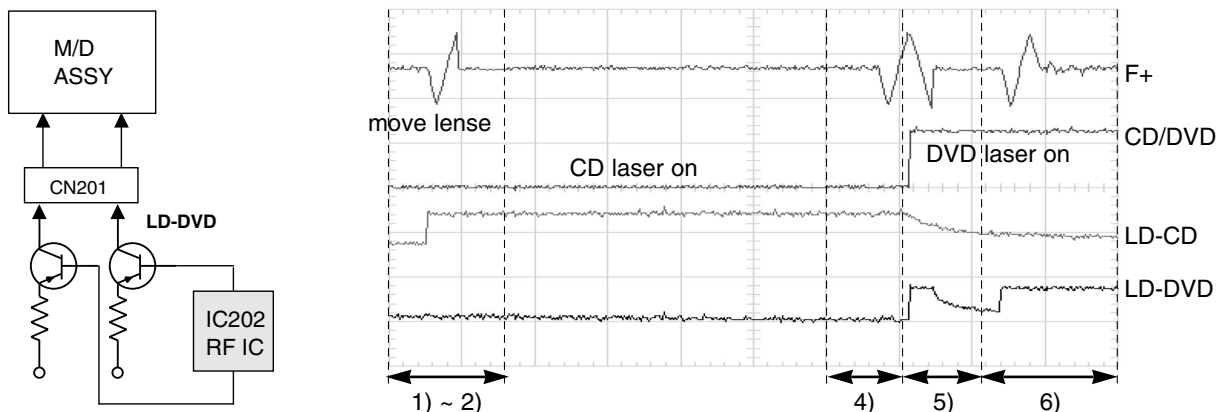
Let's look over the initial step of servo

- 1) when the tray is closed, first of all, it should be checked whether there is disc or not on tray
- 2) CD laser is turn on and the lense is moved. if there is a disc on tray, RF signal will appear
- 3) next, it should be confirmed which disc is that. CD or DVD.

- 4) the following step will be done continuously CD - Laser on -> move lense -> DVD - laser on -> move lense. in according to disc type, there will be RF signal...

- 5) after confirming disc, CD or DVD laser turn on and focus servo is executed...

the below picture is related signals when DVD disc is inserted



## 11. Checking the output of Audio signal

IC401 is called as Audio DAC, DAC means Digital-Analog Converter.

This IC receives digital signal from MPEG and convert digital signal to analog signal, so we can hear sound...

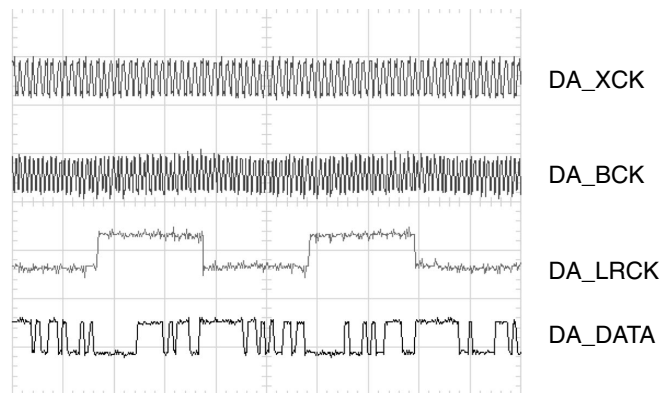
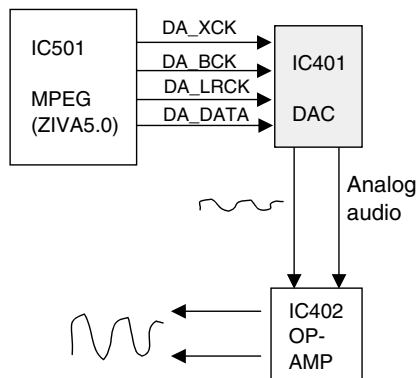
IC401 is connected with OP - AMP and an analog Audio signal is amplified at the OP - A MP. because the analog audio signal from DAC is a very low level.

DA\_XCK : this is the system clock for IC401

DA\_BCK : this is standard clock to synchronize the audio serial data

DA\_LRCK : R-channel and L-channel are selected among the audio serial data by this

DA\_DATA : serial audio data



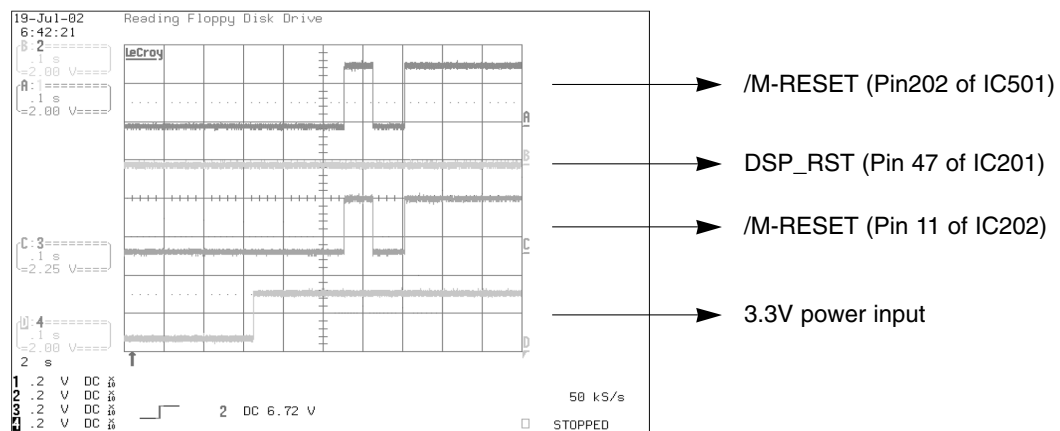
## 12. Checking the reset port

Pin 7 and pin 47 of IC20, pin202 of IC501 and pin 11 of IC202 are related to RESET.

We can know whether IC is initialized or not through those ports.

The waveform shows the status when the reset signal works normally.

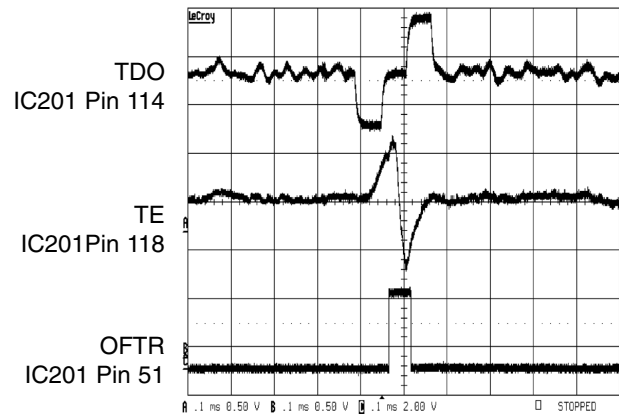
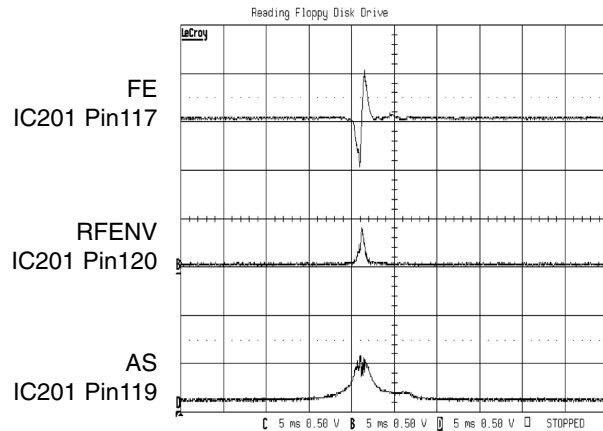
If the /M-RESET is abnormal, then check the front u-com(IC901) and replace it



The waveform when power on

### 13. Checking the focus & tracking servo

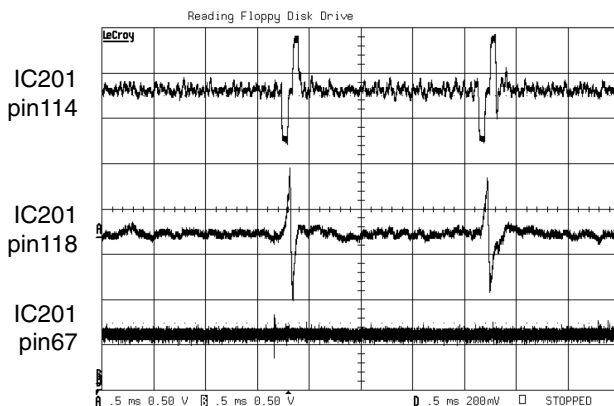
Waveforms as below are regarding focusing and tracking servo normally.  
 FE, RFENV and AS signal are generated in IC202 and output at pin22, pin41 and pin20 of IC202, respectively.  
 And then those are transmitted to pin117, pin120 and pin119 of IC201.  
 TE and OFTR signal, needed to control tracking servo, are also generated in IC202 and output at pin18 and pin39 of IC202. After that those are transmitted to pin118 and pin51 of IC201, respectively. TDO is made by being processed with TE in IC201



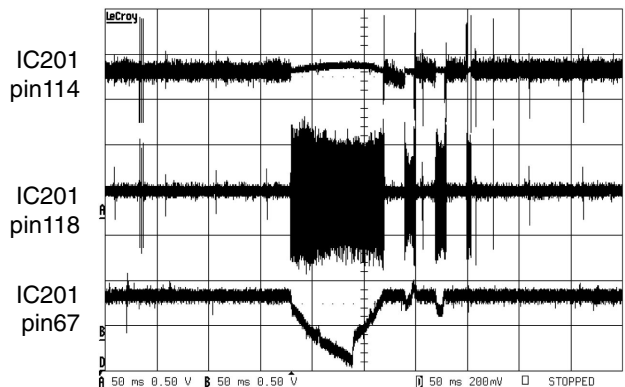
### 14. Checking the track jump

TE and TDO signals are output respectively from pin 118 and pin 114 of IC 201 during a normal play.

FMO signal is output pin 67 of IC 201 and flow into pin 25 and pin 26 of IC 203 to operate a sled motor when to skip chapters or to scan.



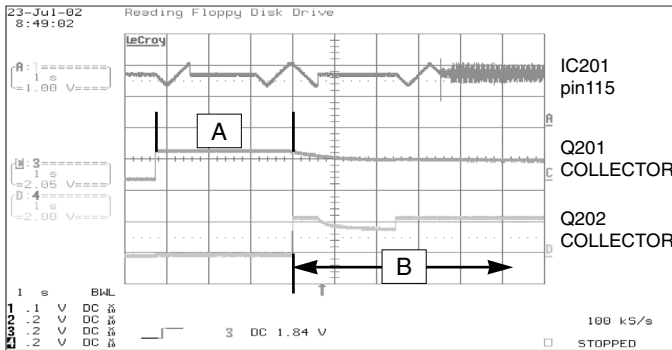
The waveform during a normal play



The waveform when to skip or scan

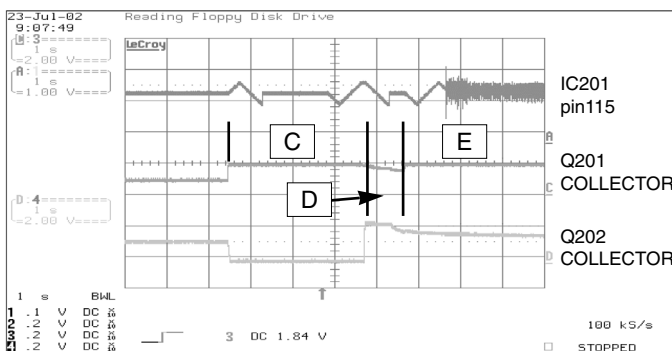
## 15. The status of CD\_LD and DVD\_LD when to play

The waveforms as below indicate "COLLECTOR" outputs of Q201 and Q202, respectively when to play DVD and CD



This is the waveform of FDO and collector outputs of Q201 and Q202 when to play DVD

Section A : CD\_LD is ON and DVD\_LD is OFF  
Section B : DVD\_LD is ON and CD\_LD is OFF



This is the waveform of FDO and collector outputs of Q201 and Q202 when to play CD

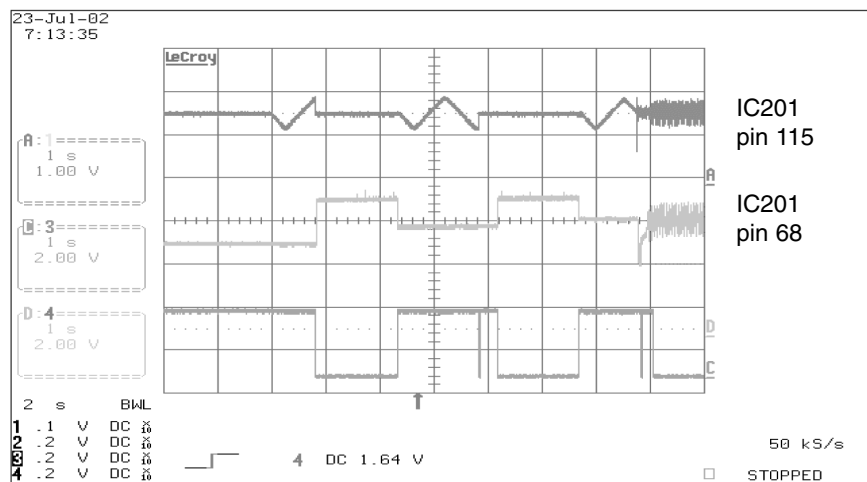
Section C : CD\_LD is ON and DVD\_LD is OFF  
Section D : CD\_LD is OFF and DVD\_LD is ON  
Section E : CD\_LD is ON and DVD\_LD is OFF

## 16. The status Focus and spindle motor

The waveform is to display FDO signal from pin 115 IC201 and SPN M+ from pin 14 IC203.

FDO is used to control a focus actuator of pick - up and SPN M+ is used to operate a spindle motor.

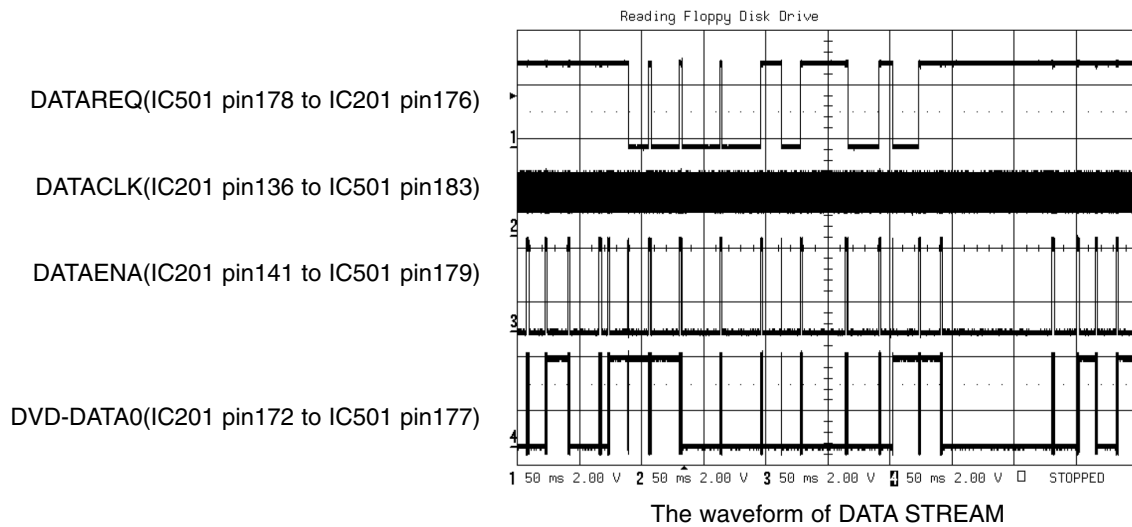
So, we can know the position of the actuator and the speed and rotating direction of the spindle motor through those signals.



The waveform FDO and SPN M+ when to play

## 17. DATA STREAM

1. In case MPEG DECODER requires DATA for playing , MPEG requests data for DSP by sending DATAREQ signal to DSP.
2. DVD DATA0-7 are output at the rising edge of DATACLK
3. During DATACLK Cycle, DATAENV is output to confirm whether DATA is valid or not
4. DATAREQ is set to 0 if a BUFFER included in IC501 is full

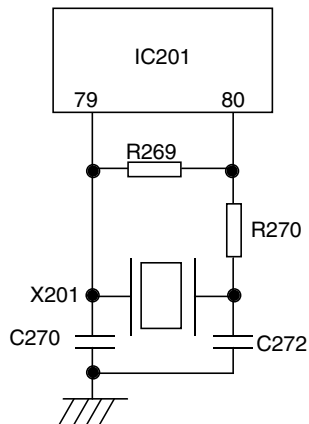


## 18. Input Clock to IC201

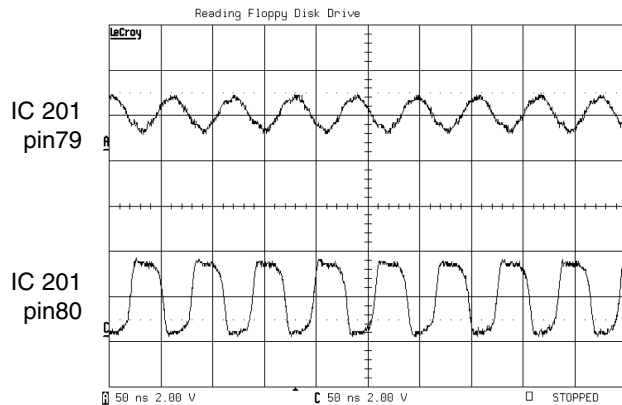
The waveform and the block diagram as below show a clock input and output between IC201 and X201.

Clocks generated in X201 is output and input into pin79 and pin80 of IC201.

The clock frequency is 16.9344MHz.



A diagram for a colck input of IC201

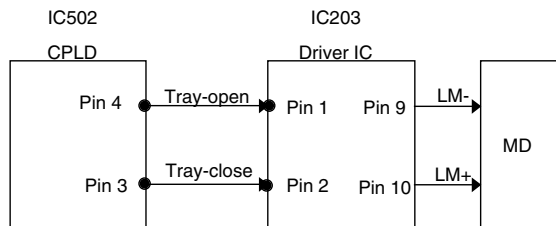


## 19. Tray Open and Close

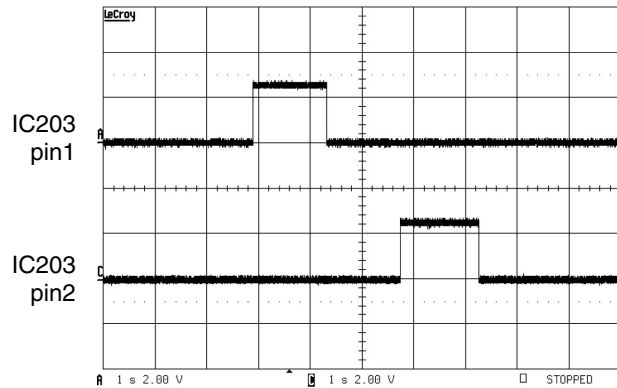
CPLD send tray - open or tray - close signal to IC203(motor drive IC)

IC203 generates LM+ and LM - and transmits them to operate a loading motor.

if there is no LM+ or LM-, check the Tray-open and Tray-close. And replace the Motor Drive IC .



A signal flow for tray open and close



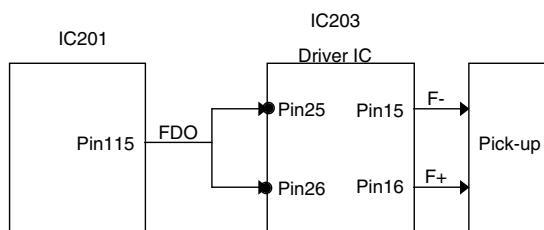
The waveform input to IC203 for tray open and close

## 20. Focus Drive signal(FDO)

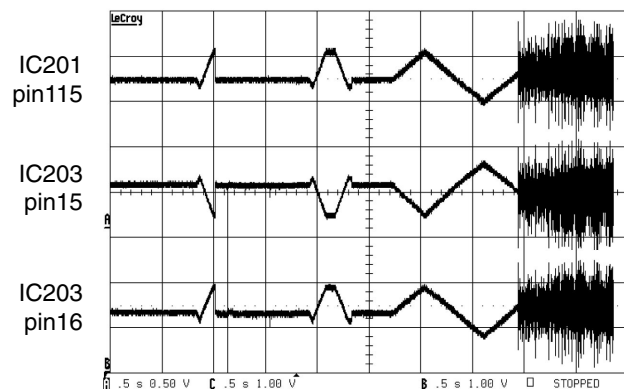
FDO is made from focus error signal at DSP(IC201) and is input to IC203.

And then FDO is converted into F - and F+ in IC203.

Finally, they are sent to pick - up to control a focus actuator.



A signal flow for FDO



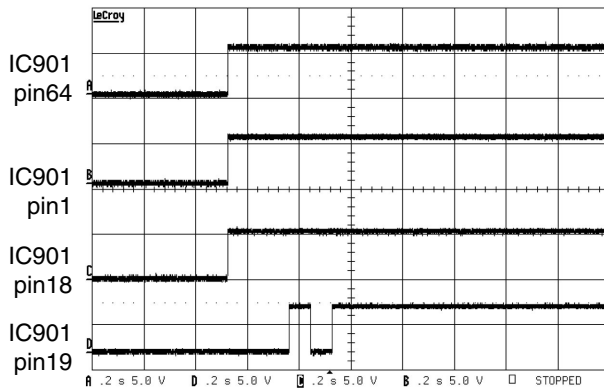
The waveform of FDO, F- and F+

## 21. Signals for Front micom

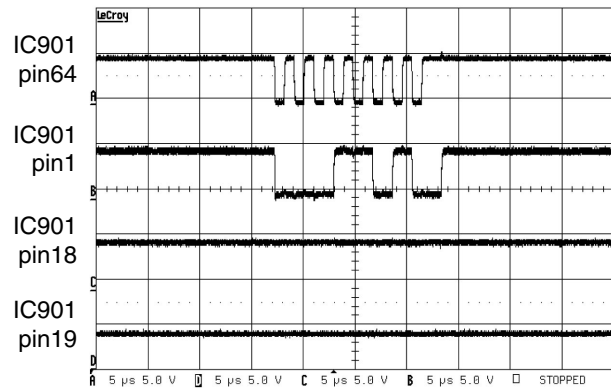
/M -RESET signal is output from IC901 when power is on, so IC501 is initialized.

And those(IC901 and IC501) communicate each other through TXDO,RXDO, SCKO signals

Waveforms display each signal when power on and after power on



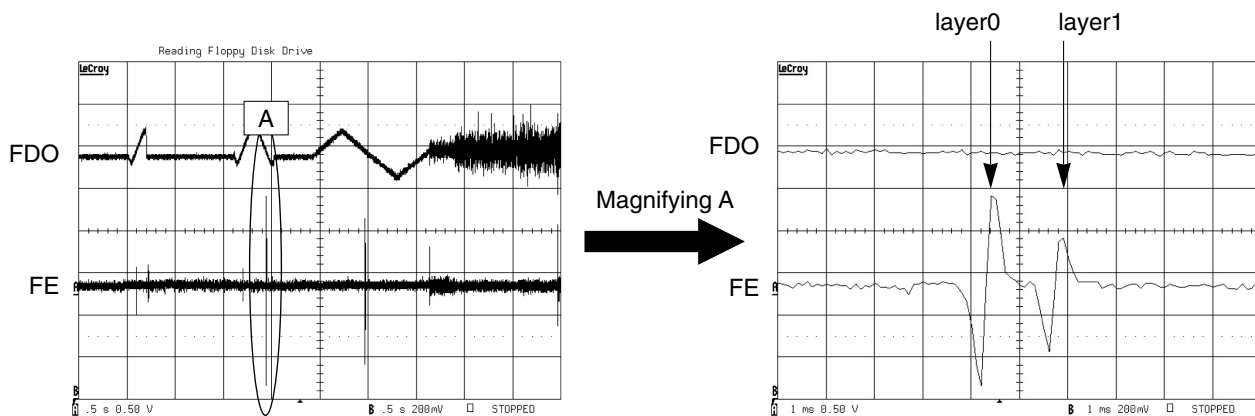
The waveform when power is on



The waveform after power on

## 22. FDO and FE for DVD9 (Dual disc)

FE signal becomes like the waveform 2, in case of DVD dual layer disc since the laser beam is reflected on both layer 0 and layer 1.



A waveforms 1. FDO and FE when to play DVD9

A waveforms 2. Magnifying 'A'

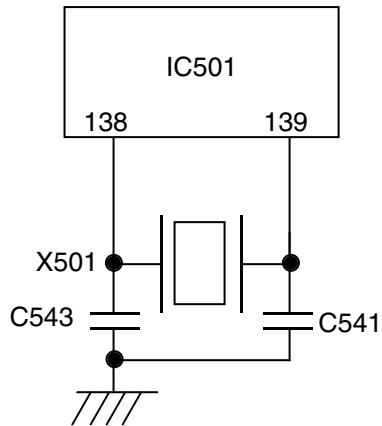
## 23. System clock of MPEG IC

The waveform and the block diagram as below show a clock input and output between IC501 and X501.

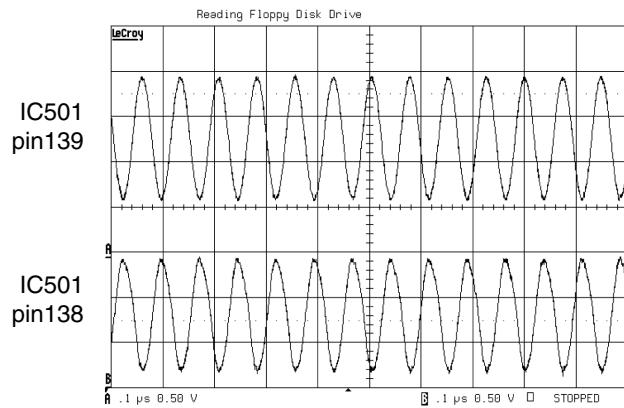
Clocks generated in X501 is output and input into pin138 and pin139 of IC501.

The clock frequency is 13.5MHz.

If this clock is abnormal or does not appear, replace the X-tal or MPEG IC



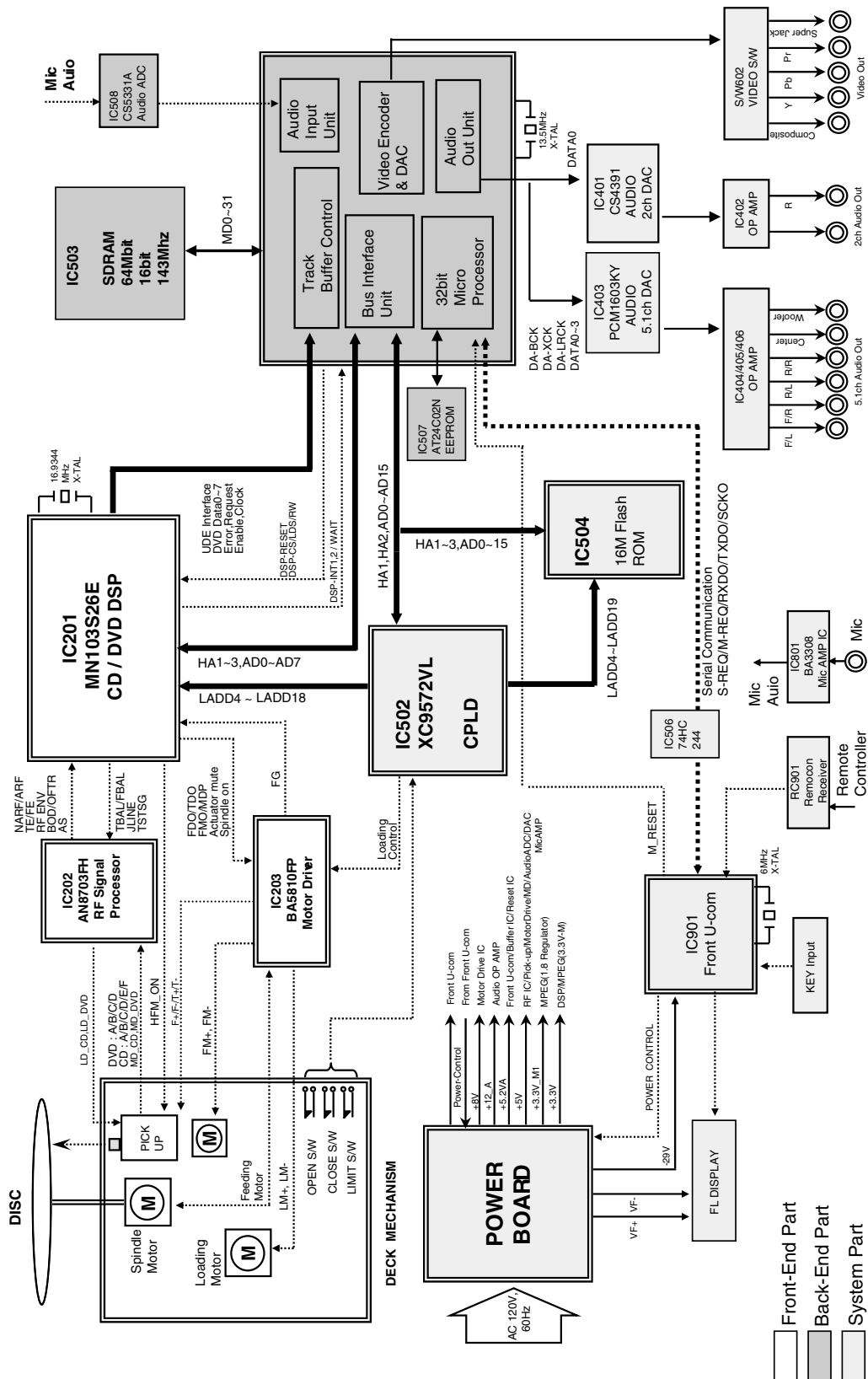
A diagram for a clock input of IC501



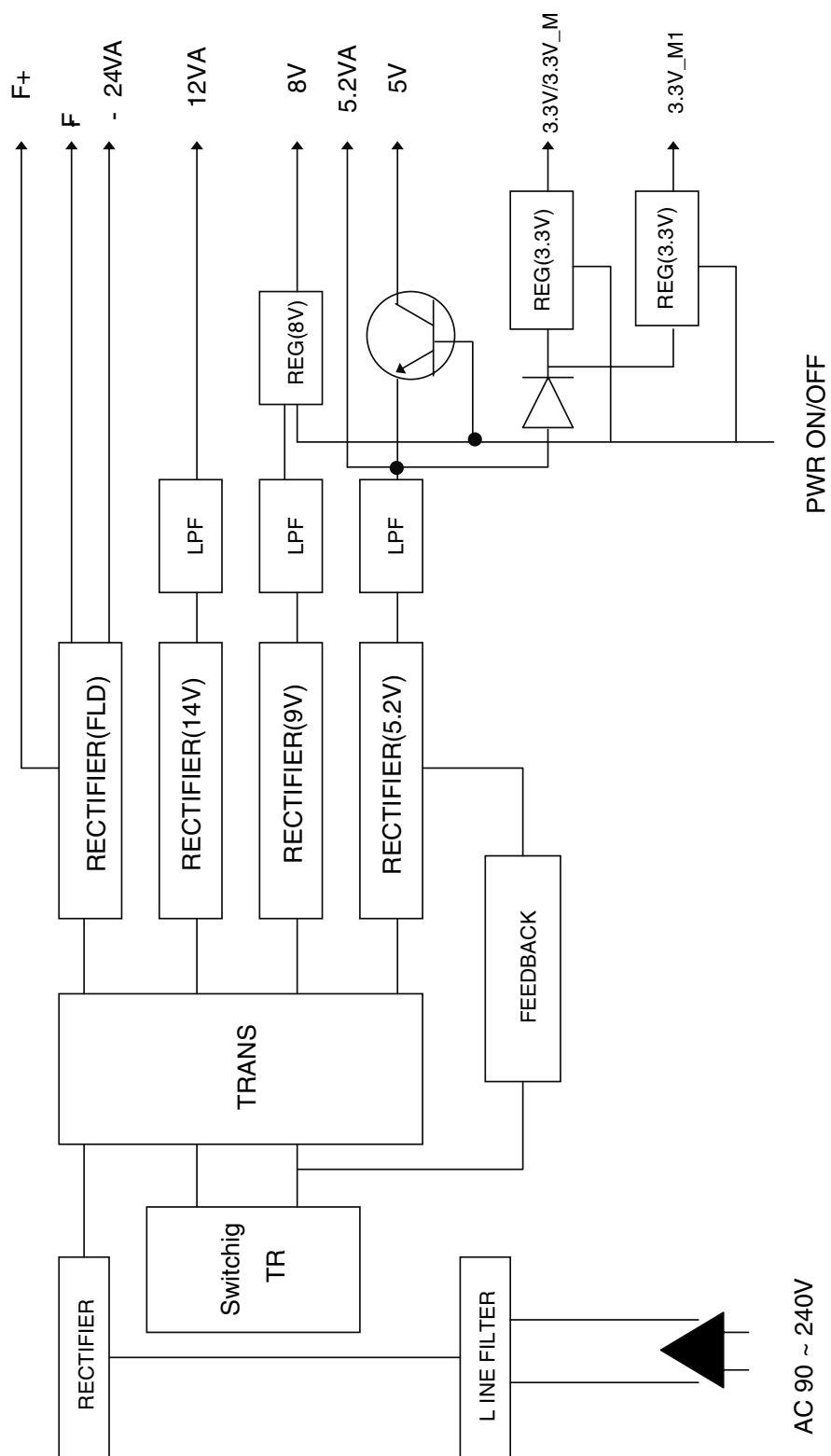
MPEG CLOCK

# BLOCK DIAGRAMS

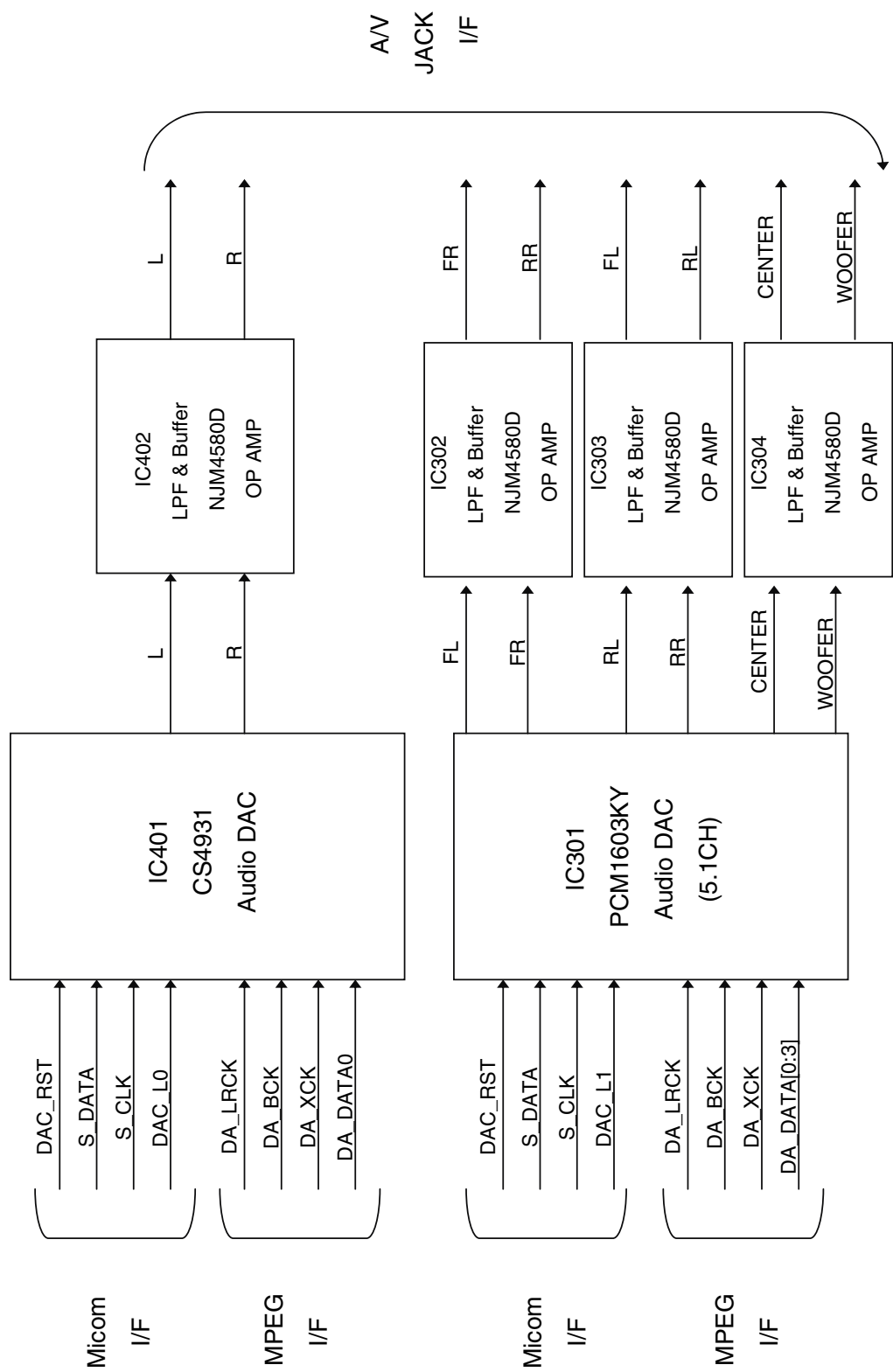
## 1. Overall Block Diagram



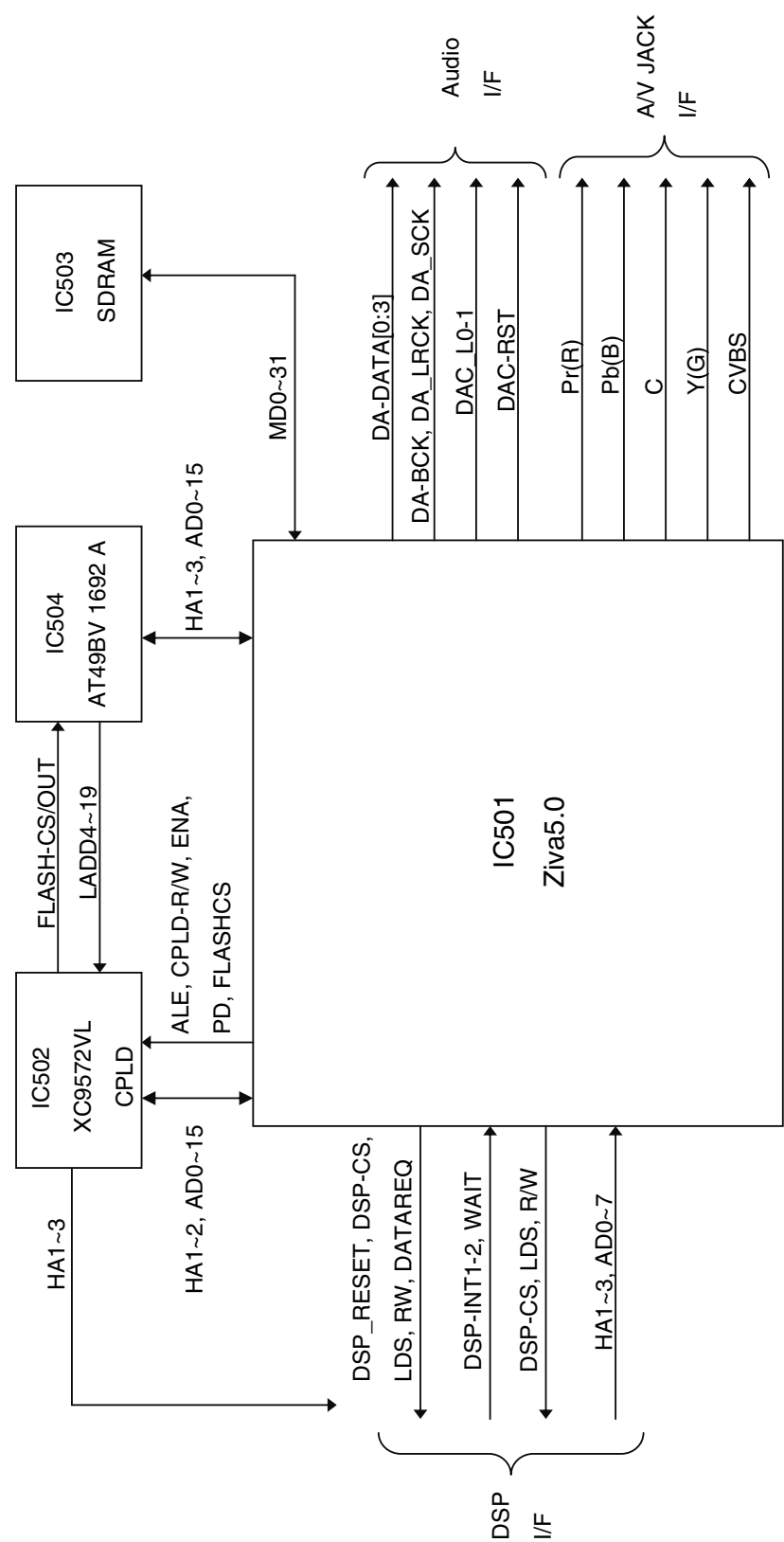
## 2. Power(SMPS) Block Diagram



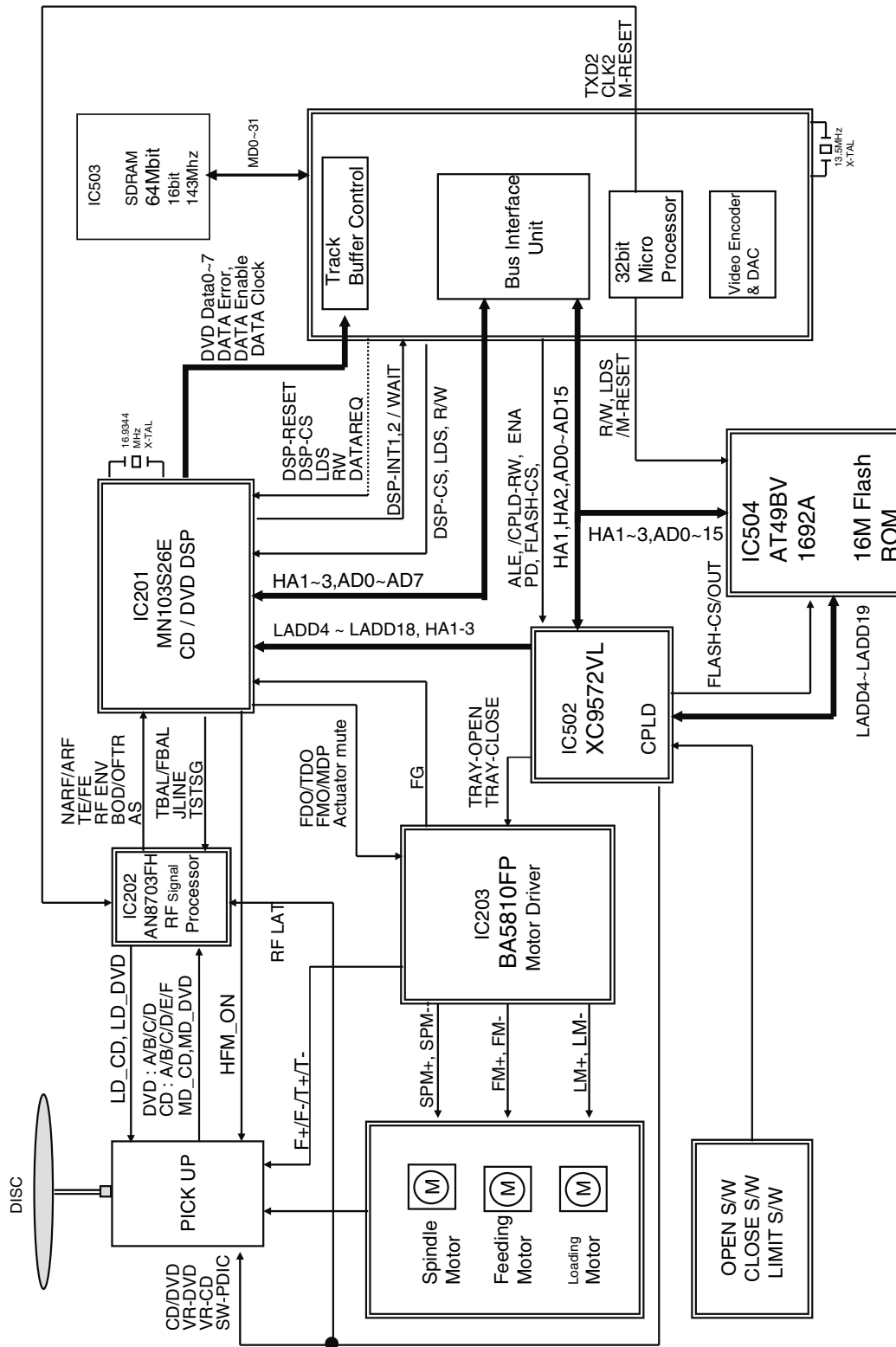
3. Audio Block Diagram



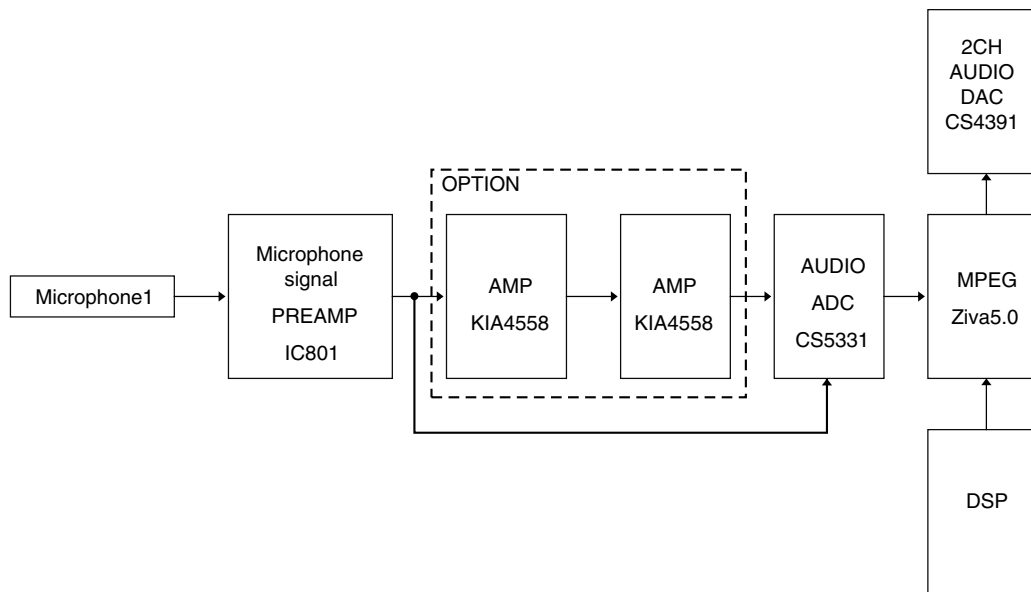
4. MPEG & MEMORY Block Diagram



## 5. Servo Interface and Block Diagram



## 6. KARAOKE Block Diagram(KARAOKE MODEL ONLY)

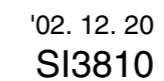


**(Block Diagram)**

- 1 The unit turns to KARAOKE MODE with on-screen lyrics display and melody sound when it plays back VCD or DVD KARAOKE DISC.
2. IF a microphone is connected at this time, MICON recognizes the connection and prepares the composition of external voice and internal melody.
3. The weak signal of the microphone is converted to the digital signal after voice output that has passed through PREAMP(BA3308) and AMP(KIA4558) passes through(CS5331) that is Audio ADC(Analog to Digital converter).
4. This digital signal enters NS that is MPEG IC and is added to the output of DVD DSP (Processor)
5. This mixed signal is output to AV JACK after passing through AUDIO DAC(CS4391).

## 1. POWER(SMPS) CIRCUIT DIAGRAM

1. Shaded(■) parts are critical for safety. Replace only with specified part number.
2. Voltages are DC-measured with a digital voltmeter during Play mode.



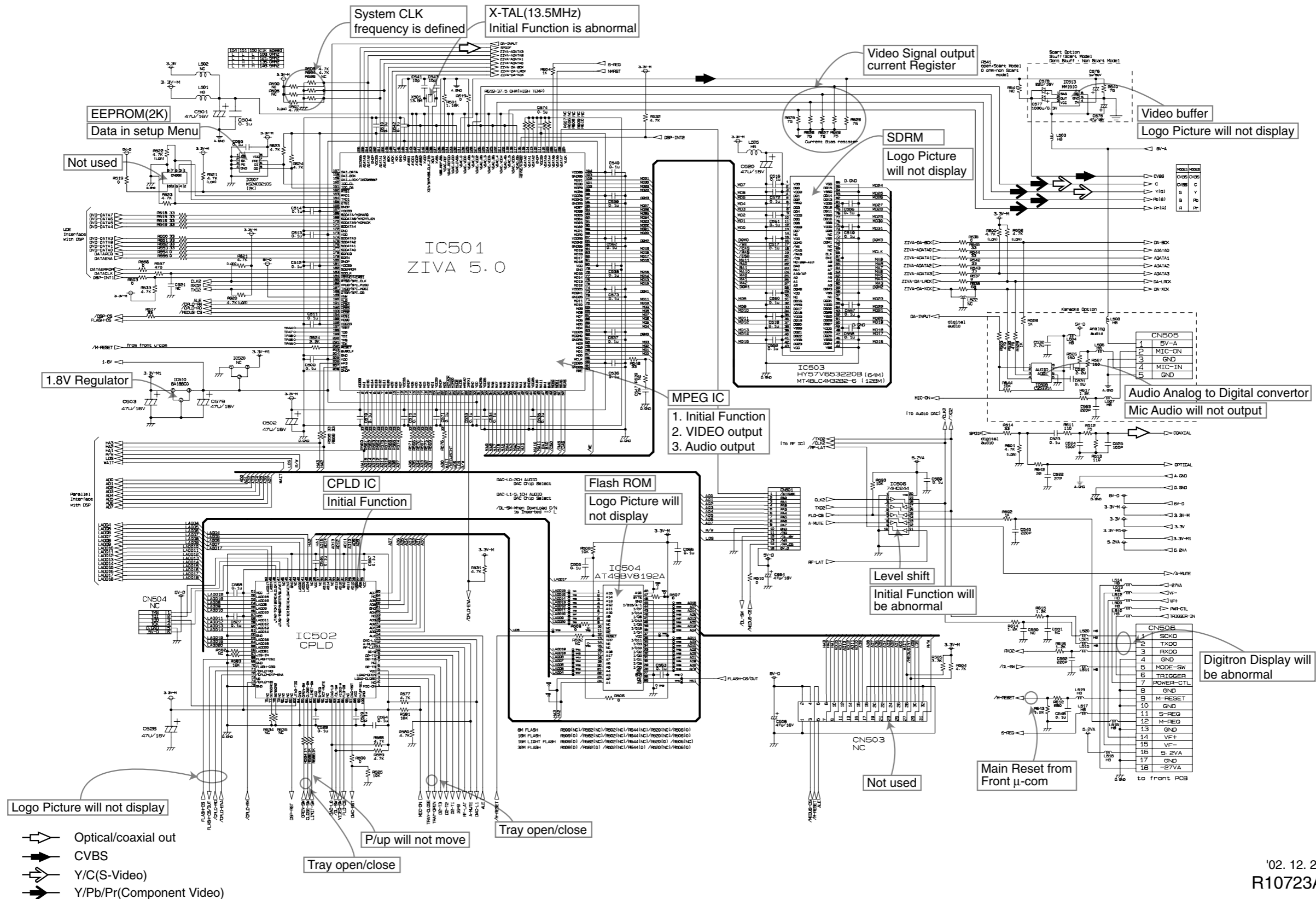
The diagram is a complex electronic schematic for a DVD player. It features several key integrated circuits (ICs) and their associated components:

- RF IC (AN8703):** Located in the upper left, it handles RF signals and includes a 'Disc detect error' section.
- Servo DSP IC (MN103S26E):** A large central IC responsible for servo control, including 'Reference voltage for normal servo' and 'Check the speed spindle'.
- Moto Drive IC:** Located at the bottom, it controls the motor for 'Close tray Open tray' and 'Tray Moving speed control'.
- Other ICs:** Includes IC201 (MN103S26E), IC202 (AN8703), and IC203 (BAS810FP).
- Connectors and Pins:** Various connectors like CN201, CN202, and CN203 are shown with their respective pin functions.
- Annotations:** Numerous callouts in Chinese and English provide troubleshooting tips and component identification, such as 'CD APC TR', 'DVD APC TR', 'Disc detect error', 'Reference voltage for normal servo', 'Check the speed spindle', 'Tray Moving speed control', 'Find best point for Tracking, Focus Servo', 'Close tray Open tray', 'Focus Servo loop', 'Tracking Servo loop', 'Spindle Servo loop', and 'Sled Servo loop'.

The diagram is organized into a grid with letters A through K and numbers 1 through 7, likely corresponding to a physical layout or a specific version of the schematic.

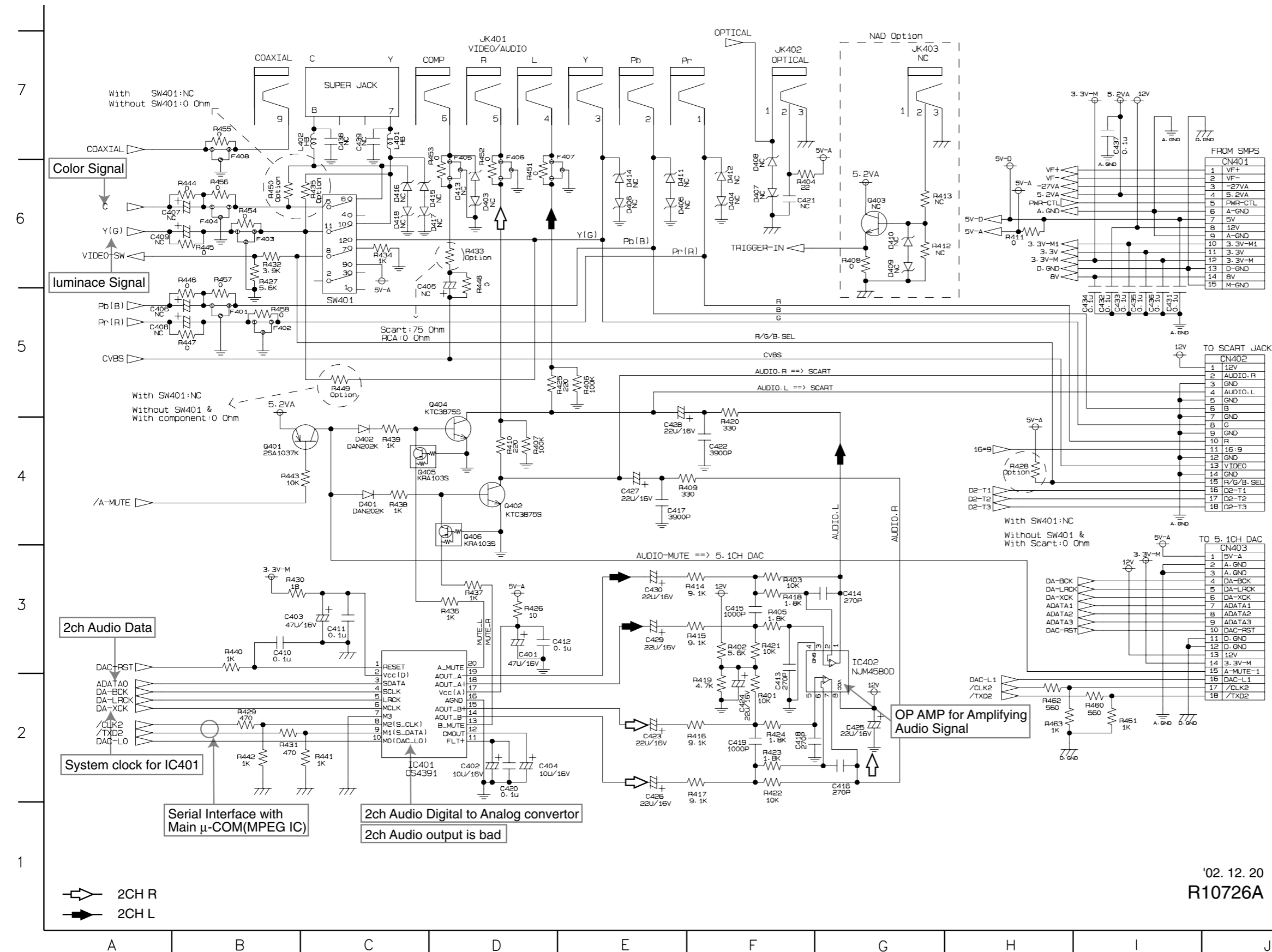
3. SYSTEM CIRCUIT DIAGRAM

8  
7  
6  
5  
4  
3  
2  
1



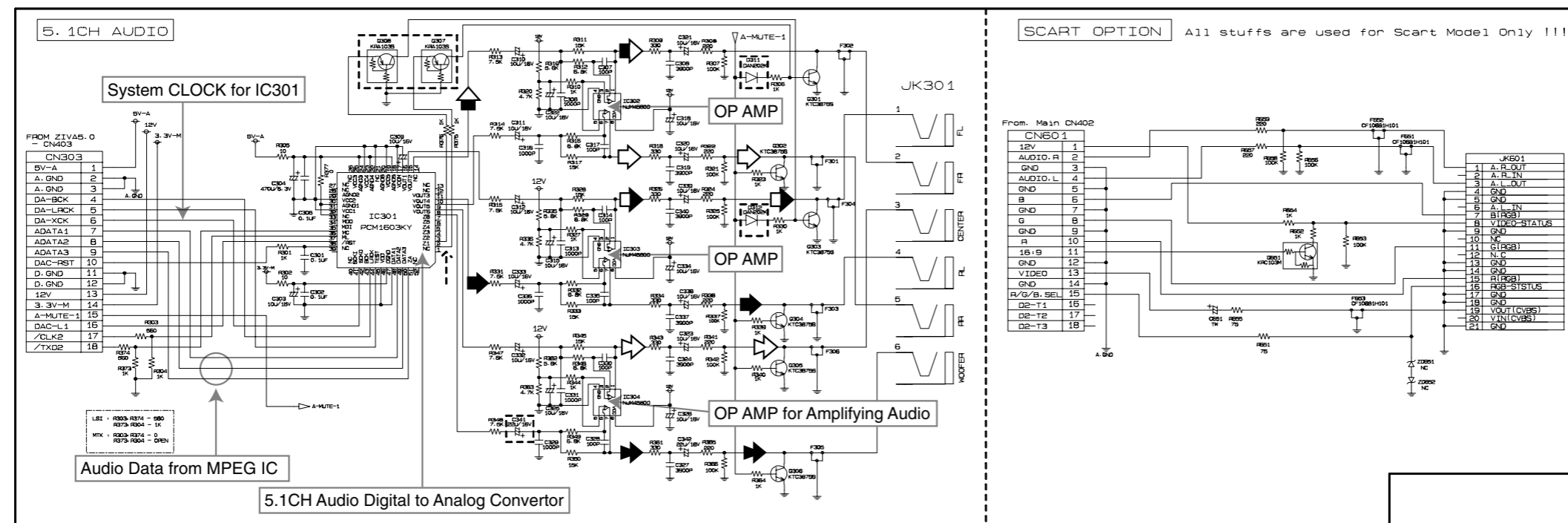
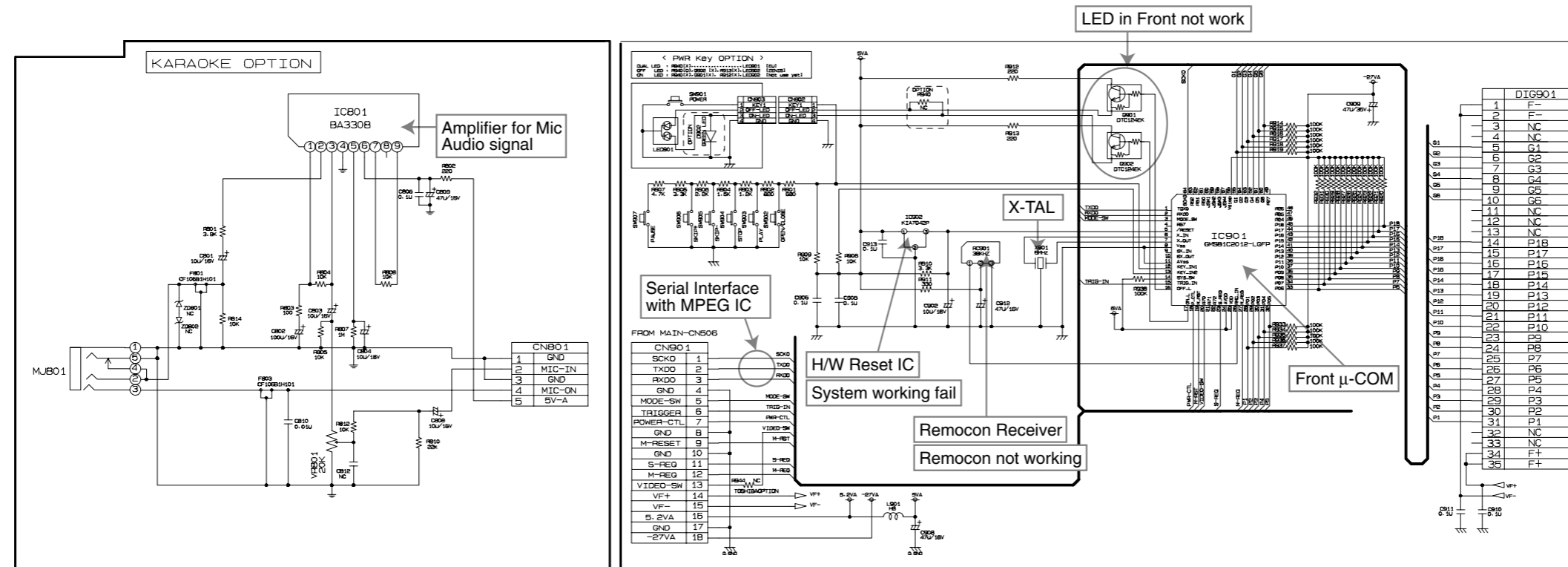
'02. 12. 20  
R10723A

#### 4. AUDIO & JACK CIRCUIT DIAGRAM



'02. 12. 20  
R10726A

## 5. TIMER/5.1CH CIRCUIT DIAGRAM



'02. 12. 20  
R10728A

• CIRCUIT VOLTAGE CHART

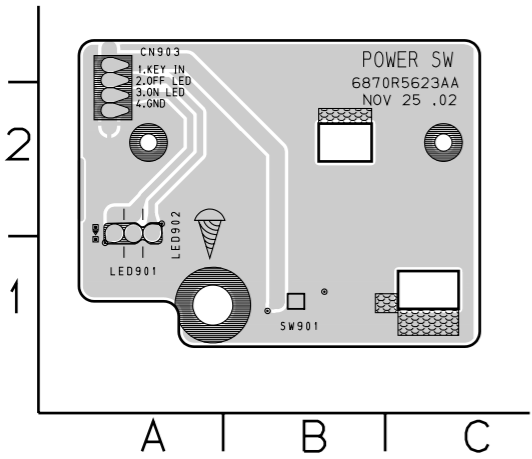
MODE PIN NO.	STOP	PLAY	MODE PIN NO.	EE	PLAY	MODE PIN NO.	EE	PLAY	MODE PIN NO.	EE	PLAY	MODE PIN NO.	EE	PLAY	MODE PIN NO.	EE	PLAY	MODE PIN NO.	EE	PLAY	MODE PIN NO.	EE	PLAY	MODE PIN NO.	EE	PLAY	MODE PIN NO.	EE	PLAY	MODE PIN NO.	EE	PLAY
IC 2 0 1			55	0	0	110	0	1.62	165	0	0	43	1.91	0	20	3.24	1.65	75	0	0	130	0.3	0	185	3.24	0	130	0.3	0	185	3.24	0
1	1.24	1.13	56	0	0	111	0	0	166	0	3.2	44	0	0	21	0	0	76	0	0	131	0.35	0.64	186	4.9	0.13	131	0.35	0.64	186	4.9	0.13
2	3.23	3.21	57	3.28	0	112	0	1.78	167	0	0	45	1.82	0	22	0.25	0.21	77	1.22	0.11	132	0	0	187	1.1	1	132	0	0	187	1.1	1
3	3.23	3.27	58	1.97	0	113	0	0	168	0	3.27	46	0	2.16	23	3.24	0.24	78	0.93	0	133	3.22	0	188	0.35	0	133	3.22	0	188	0.35	0
4	0	0	59	0	0	114	0	0	169	3.28	3.27	47	2.27	0	24	0	1.7	79	0	0	134	3.22	0.12	189	5.06	0.23	134	3.22	0.12	189	5.06	0.23
5	3.23	0	60	0	0	115	0	1.9	170	0	0	48	0	0	25	0	0.18	80	1.78	1.7	135	1.32	1.3	190	0.35	0.33	135	1.32	1.3	190	0.35	0.33
6	3.22	3.22	61	1.38	1.38	116	3.28	3.27	171	0	0	49	0	2.29	26	3.24	0.22	81	0	0	136	0.35	0	191	3.24	0.33	136	0.35	0	191	3.24	0.33
7	0	0	62	1.62	1.62	117	0	1.64	172	3.27	0	50	2.28	2.27	27	3.22	0.22	82	0	0.12	137	0	0.23	192	3.24	3.24	137	0	0.23	192	3.24	3.24
8	0	0	63	1.61	1.61	118	0	0	173	0	0	51	2.29	2.3	28	0	0	83	0	0.14	138	1.53	0	193	0.35	0	138	1.53	0	193	0.35	0
9	0	0	64	0	0	119	0	2.19	174	0	0	52	2.27	2.26	29	0	0	84	0.74	1	139	1.29	0	194	3.23	3.24	139	1.29	0	194	3.23	3.24
10	0	0	65	1.64	1.38	120	1.65	0	175	3.27	0	53	0	0	30	0	1.79	85	0	0	140	0	0.12	195	3.23	0	140	0	0.12	195	3.23	0
11	0	0	66	1.64	2.08	121	1.27	0	176	0	1.6	54	0	0	31	0	0	86	0	0.35	141	0	0	196	3.24	3.24	141	0	0	196	3.24	3.24
12	0	0	67	1.64	0	122	2.07	2.31	IC 2 0 2			55	0	0	32	3.23	0	87	3.24	3.23	142	0	0.19	197	0	3.24	142	0	0.19	197	0	3.24
13	0	0	68	1.64	0	123	0	1.63	1	0	0	56	0	0	33	0.17	0	88	0.72	1.55	143	3.22	0.22	198	3	0	143	3.22	0.22	198	3	0
14	0	0	69	0	0.65	124	0	1.63	2	3.26	3.2	57	0	2.28	34	0.2	0	89	0.66	0.14	144	0	0	199	3.24	0.13	144	0	0	199	3.24	0.13
15	0	0	70	0	0	125	0	3.27	3	0	0	58	0	2.28	35	0.54	0	90	0.81	0.13	145	1.79	1.79	200	3.24	0	145	1.79	1.79	200	3.24	0
16	0	0	71	0	0	126	0	0	4	4.52	4.5	59	2.29	2.29	36	0.57	0.63	91	1.04	0	146	0	0	201	3.24	0	146	0	0	201	3.24	0
17	0	0	72	0	0	127	0	0	5	0	0	60	0	2.27	37	0.47	0.63	92	0.75	0	147	0	0	202	3.05	0	147	0	0	202	3.05	0
18	1.78	1.78	73	0	0	128	0	0	6	0	1.64	61	0	0	38	0.61	0.7	93	0.89	0.12	148	0	0.13	203	1.75	0.16	148	0	0.13	203	1.75	0.16
19	0	0	74	3.27	3.27	129	0	3.15	7	0	1.64	62	0	0	39	0.54	0.6	94	0.63	1	149	1.67	1.68	204	0	0.16	149	1.67	1.68	204	0	0.16
20	1.97	1.97	75	0	0	130	0	0	8	0	0	63	0	2.16	40	0.24	0.3	95	0.59	0	150	0	0	205	0	1.78	150	0	0	205	0	1.78
21	0	0	76	1.79	1.79	131	0	0	9	0	0	64	0	0	41	0.24	0.3	96	0	0	151	0	0	206	0	0	151	0	0	206	0	0
22	0	0	77	0	0	132	0	3.27	10	0	0	IC 2 0 3			42	0.31	0.3	97	0.34	0.17	152	0	0	207	0	0	152	0	0	207	0	0
23	0	0	78	3.28	3.28	133	0	0	11	0	3.17	1	0	0	43	0	0	98	3.23	0.3	153	0	0	208	0	0	153	0	0	208	0	0
24	0	0	79	1.67	0	134	3.27	3.27	12	0	0	2	0	0	44	3.24	3.23	99	0.79	3.23	154	0	0	IC 5 0 2			154	0	0	154	0	0
25	0	2.51	80	1.65	1.65	135	3.27	3.27	13	0	0	3	1.37	1.37	45	2.21	2.1	100	0.5	0.93	155	0	0	1	3.21	3.21	155	0	0	1	3.21	3.21
26	0	2.58	81	0	0	136	0	0	14	1.65	0	4	4.96	4.95	46	0	0	101	0.61	1.06	156	0	1.64	2	0	0	156	0	1.64	2	0	0
27	0	2.53	82	0	0	137	0	3.27	15	1.18	0	5	1.63	1.85	47	1.39	1.62	102	0.86	0.93	157	1.46	0.24	3	0	0	157	1.46	0.24	3	0	0
28	0	0	83	0	0	138	0	0	16	0	0	6	1.63	1.62	48	1.61	1.56	103	0	0	158	0	0	4	0	0	158	0	0	4	0	0
29	0	0	84	0	1.63	139	0	3.27	17	1.64	0	7	7.98	7.95	49	0	0	104	3.24	0.16	159	0	0	5	3.21	3.21	159	0	0	5	3.21	3.21
30	0	0	85	0	0	140	0	0	18	0	0	8	7.98	7.95	50	0	3.17	105	0	0	160	0.16	3.25	6	0	0	160	0.16	3.25	6	0	0
31	3.23	3.27	86	1.64	1.63	141	0	0	19	0	0	9	0	0	51	3.07	0	106	0.3	0	161	3.24	0	7	0	0	161	3.24	0	7	0	0
32	0	0	87	1.64	0	142	0	3.27	20	0	0	10	0	0	52	2.99	3	107	0	0	162	0	0.28	8	3.21	0	162	0	0.28	8	3.21	0
33	3.28	3.27	88	3.28	3.28	143	3.27	3.27	21	1.64	0	11	4.15	4.13	53	3.05	0.13	108	2.62	2.6	163	0	0	9	0	0	163	0	0	9	0	0
34	3.22	3.21	89	1.25	1.46	144	0	0	22	0	0	12	4.15	4.12	54	0	1.28	109	0	0	164	3.22	3.22	10	0	0	164	3.22	3.22	10	0	0
35	3.22	3.22	90	0	1.62	145	0	0	23	0	0	13	4.15	3.26	55	3.24	3.23	110	0	0	165	0.16	0.3	11	0	0	165	0.16	0.3	11	0	0
36	3.22	3.22	91	0	1.63	146	0	0	24	0	0	14	4.15	5	56	1.57	0.28	111	3.24	0.11	166	0	0	12	3.2	3.19	166	0	0	12	3.2	3.19
37	1.23	0	92	0	0	147	3.27	0	25	0	1.62	15	4.08	3.73	57	0.88	0	112	0	0	167	3.24	0.15	13	3.21	3.21	167	3.24	0.15	13	3.21	3.21
38	2.1	1.17	93	1.64	0	148	0	0	26	0	0	16	4.08	4.37	58	0	0.16	113	0.35	0.11	168	0	0	14	0	0	168	0	0	14	0	0
39	2.13	0	94	0	0	149	0	0	27	2.16	2.16	17	4.06	4	59	0	0.16	114	0.35	0.14	169	3.22	0	15	1.27	0	169	3.22	0	15	1.27	0
40	2.13	0	95	1.02	0	150	0	0	28	4.96	0	18	4.09	4.07	60	0	0.16	115	0.3	0.15	170	0	0.16	16	1.27	0	170	0	0.16	16	1.27	0
41	1.37	0	96	1.64	1.64	151	0	3.24	29	0	0	19	0	0	61	0	0	116	3.24	0.22	171	0	0	17	0	0	171	0	0	17	0	0
42	2.12	0	97	2.77	2.76	152	0	0	30	0	0	20	7.98	7.94	62	0	0	117	0.35	0	172	0	0	18	0	0	172	0	0	18	0	0
43	2.04	0	98	1.64	1.63	153	0	0	31	0	0	21	3.69	3.83	63	3.23	3.23	118	3.22	3.22	173	1.78	1.78	19	0	0	173	1.78	1.78	19	0	0
44	2.12	0	99	3.28	3.28	154	0	0	32	2.19	2.2	22	1.62	1.62	64	0	0	119	1.29	1.36	174	0	0	20	0	0	174	0	0	20	0	0
45	1.54	1.54	100	1.48	1.6	155	0	0	33	0	0	23	1.63	1.63	65	0	0	120	0.39	0	175	0	0	21	0	0	175	0	0	21	0	0
46	0	0	101	1.48	1.6	156	0	3.27	34	0	2.1	24	1.63	1.63	66	0.1	0	121	3.22	3.22	176	0.35	0.13	22	2.11	0	176	0.35	0.13	22	2.11	0
47	3.19	3.19	102	0	0	157	3.28	0	35	0.8	0	25	1.63	1.55	67	0.9	0	122	1.38	1.34	177	0.35	0	23	0	0	177	0.35	0	23	0	0
48	0	0	103	1.47	1.47	158	0	3.28	36	3.27	0	26	1.63	1.63	68	0.9	0	123	0	0	178	0.35	0.1	24								



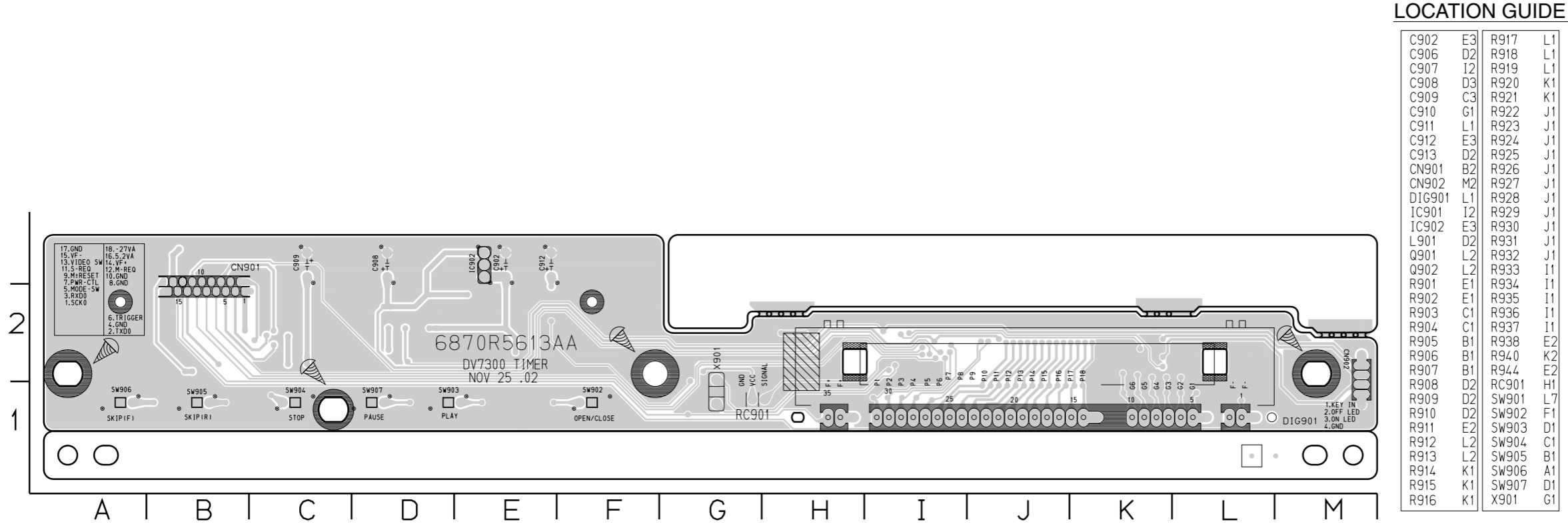
## 1. MAIN P.C.BOARD

3-35

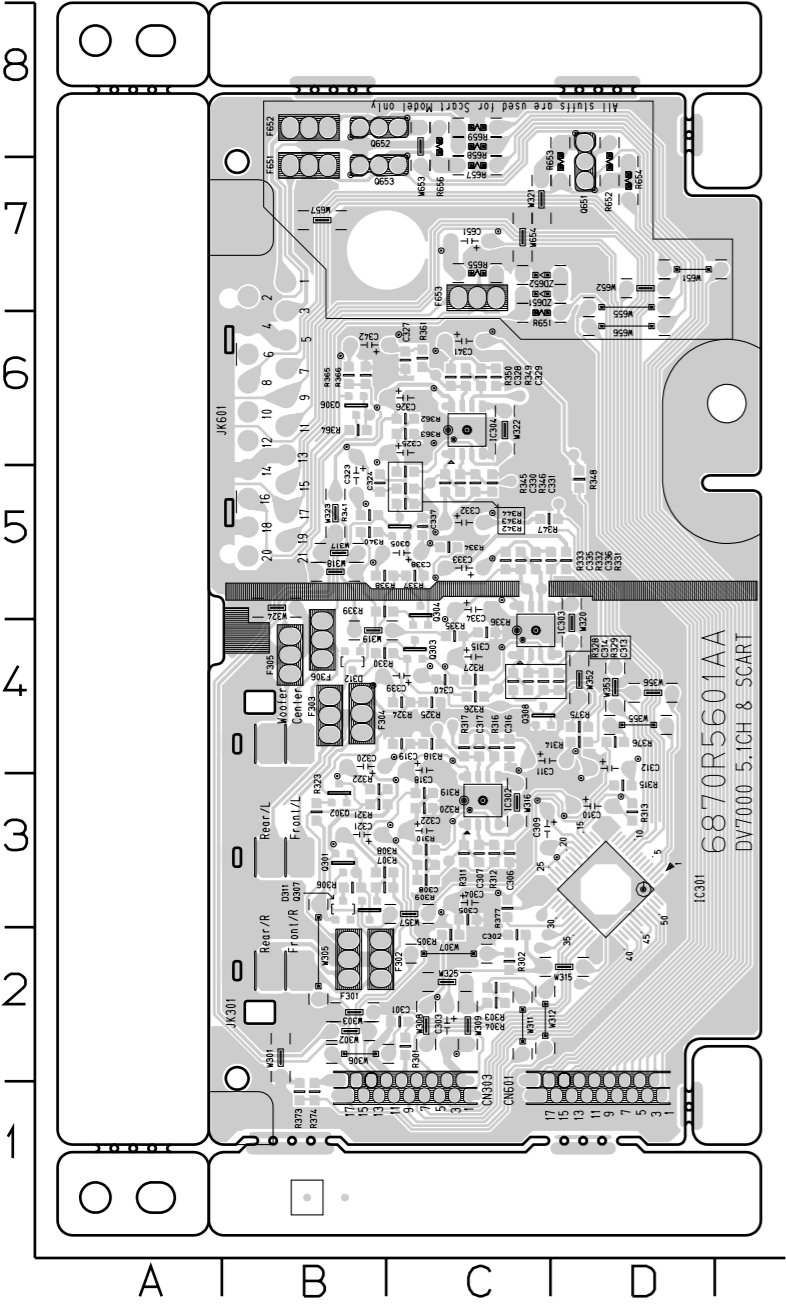
2. KEY P.C.BOARD



3. TIMER P.C.BOARD



4. SCART & 5.1CH P.C.BOARD



LOCATION GUIDE

C303	C2
C304	C3
C309	C3
C310	D3
C311	C4
C312	D4
C315	C4
C318	C4
C320	B4
C321	B3
C322	C3
C323	B5
C325	C6
C326	C6
C332	C5
C333	C5
C334	C5
C338	C5
C339	C4
C341	C6
C342	B6
C651	C7
CN303	C1
CN601	D1
F301	B2
F302	B2
F303	B4
F304	B4
F305	B4
F306	B4
F651	B7
F652	B8
F653	C7
JK301	B3
JK601	B6
Q651	D7
Q652	B8
Q653	B7
R651	C6
R652	D7
R653	D7
R654	D7
R655	C7
R656	C8
R657	C7
R658	C8
R659	C8
ZD651	C7
ZD652	C7

(Solder Side)

NOTES) If you want to purchase  
Flash memory, you must order  
"IC5A1A"

NOTES) ⚠ Warning  
Parts that are shaded are critical  
With respect to risk of fire or  
electrical shock.

## SECTION 4 REPLACEMENT PARTS LIST

MODEL: (A)DV7311E4L(DVD5185) HA3GLG LGEDG

RUN DATE: JAN.07.2003

### .MECHANICAL SECTION

NSP: Not Service Part

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
<b>ASSEMBLY PARTS SECTION</b>							
		A00	6721RH0370A	O	DECK ASSEMBLY, VIDEO	DP-7R(55MM) - SH	NSP
		A01	4861R-0016B	O	CLAMP ASSEMBLY	DISC DP7 - SH	
		A02	3041R-M003B	O	BASE ASSEMBLY	MAIN(DP-7R) - SH	
		A03	3041R-M002B	O	BASE ASSEMBLY	SLED(DP-7RM, 2LD 502W DC W/O S	
<b>PARTS SECTION</b>							
		001	3300R-0547A	O	PLATE	CLAMP	NSP
		002	5016H-1016B	O	MAGNET	CLAMP(LDM-R608,10*5,1*1.5T)	NSP
		003	4860R-0021A	O	CLAMP	UPPER DP7	NSP
		004	4930R-0365A	O	HOLDER	CLAMP DP7	
		010	6850R-GF10B	O	CABLE, FLAT	P=1.0 FFC UL2896(0.05X0.65) 6	
		011	3210R-M001A	O	FRAME	UP/DOWN DP7 MOLD	
		011A	6850R-JW24Y	O	CABLE, FLAT	P=1.0 FFC UL2896(0.035X0.7) 23	
		012	5040R-0075D	O	RUBBER	DAMPER DP7 (YAMAUCHI 30)	
		013	4400H-1009A	O	BELT	GM-RT1332A	
		014	4470R-0055A	O	GEAR	PULLEY	
		015	6871R-9248B	O	PWB(PCB) ASSEMBLY, TOTAL	DP7 LOADING - SH	
		015A	4681R-A003B	O	MOTOR ASSEMBLY	LOADING DP7 - SH	
		015B	4560R-0008A	O	PULLEY	MOTOR	
		015C	4680R-E007A	O	MOTOR(MECH)	FEEDING BCZ3B01 SANKYO FOR DVD	
		017	4470R-0056A	O	GEAR	LOADING	
		018	4974R-0046A	O	GUIDE	UP/DOWN(DP-7)	
		020	3040R-M004A	O	BASE	MAIN(DP7-55MM) MOLD	
		021	4680R-C010A	O	MOTOR(MECH)	SPINDLE JCL9B78 SANKYO FOR DVD	
		022	4681R-B005B	O	MOTOR ASSEMBLY	FEEDING DP7 - SH	
		022A	4680R-E008A	O	MOTOR(MECH)	FEEDING RF-300EA-1D390 MABUCHI	
		023	4470R-0119A	O	GEAR	FEED MOTOR	
		024	4470R-0124A	O	GEAR	PINION DP7	
		024A	5006R-0040A	O	CAP	SKEW (T) DP7	
		024B	5006R-0039A	O	CAP	SKEW (R) DP7	
		025	4470R-0122A	O	GEAR	MIDDLE A DP7	
		026	3390R-0015A	O	TRAY	DISC DP7	
		027	4470R-0123A	O	GEAR	MIDDLE B DP7	
		028	4370R-0083A	O	SHAFT	DECK/MECHA DP7 OTHER PU-T	
		029	4370R-0075A	O	SHAFT	PU	
		030	4471R-0010A	O	GEAR ASSEMBLY	RACK DP7	
		031	6716DPH005A	O	PICK UP, DVD	PVR-502W MITSUMI PLAYER H/HIGH	
		032	6871R-9243B	O	PWB(PCB) ASSEMBLY, TOTAL	DP7 FEEDING - SH	
<b>SCREW</b>							
		430	1SZZR-0046A	O	SCREW, DRAWING	+ 1 D2.0 L6.0 SWRCH16A/FZY	
		431	1SZZH-1007B	O	SCREW, DRAWING	+ D2.0 6MM SWRCH16A/ZNBK 4MM 1	
		433	1SZZR-0050A	O	SCREW, DRAWING	+ 1 D2.0 L4.5 SWRCH16A/ZNY S-T	
		434	1SZZR-0023B	O	SCREW, DRAWING	+ 1 D1.7 L6.0 SWRCH16A/FZY RAC	
		435	1SZZR-0011A	O	SCREW,	MACHINE	
		436	1SZZR-0047A	O	SCREW, DRAWING	+ 1 D1.4 L4.5 SWRCH16A/FZY TAP	

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
<b>.CABINET &amp; MAIN FRAME SECTION</b>							
<b>ASSEMBLY PARTS SECTION</b>							
		A42	6871R-5723A	O	PWB(PCB) ASSEMBLY,TOTAL	DV7000S 3TOOL KEY SH	
		A43	3501RF2990A	O	BOARD ASSEMBLY	DVD DV7311E4L HA3GLG +FRONT	
		A44	3141R-D003F	O	CHASSIS ASSEMBLY	DV7510E LSI,MTK 55MM	NSP
		A46	6885R-1000L	O	SUB PWB(PCB) ASSEMBLY	DV7311E4L HA3GLG LG, R2, ENG_S	
		A47	6871R-7604C	O	PWB(PCB) ASSEMBLY,TOTAL	DV7000S SMPS SH 220V(CE)	
		A48	6871R-7601N	O	PWB(PCB) ASSEMBLY,TOTAL	DV7000S LSI SCART SH	
		A49	6871R-5713A	O	PWB(PCB) ASSEMBLY,TOTAL	DV7000S 3TOOL TIMER SH	
<b>PARTS SECTION</b>							
		250	3110R-D001A	O	CASE	DV7000 PRESS 430-55(A288G)	
		260	3140R-D002A	O	CHASSIS	DV7000 PRESS MAIN	
		261	5040R-0069D	O	RUBBER	FOOT(SILICONE SPONGE DS-08 T=	
		280	3721R-F327A	O	PANEL ASSEMBLY,FRONT[NORMAL PA	DV7300 EVENT	
		283	3580R-T085A	O	DOOR,CASE	DVD DV7000 MOLD VCD	
		300	6410RCHX02A	O	POWER CORD	CE-503/JL201B JIULAN/CHAUS VD	
		320	3720R-D072F	O	PANEL,VIDEO	DVD DV7510E PRESS LSI,MTK 55MM	
<b>SCREW</b>							
		452	353-051A	O	SCREW	SPECIAL	
		463	353-051G	O	SCREW,DRAWING	+ 2 D3.0 L8.0 MSWR3/FN TB ROUN	
		465	353-046K	O	SCREW	SPECIAL (3X10 B.K)	
		467	353-046N	O	SCREW,DRAWING	SPECIAL(3X8 BK.)	
<b>.PACKING &amp; ACCESSORY SECTION</b>							
		801	3835RS0050L	O	INSTRUCTION ASSEMBLY	DVD DV7311E4L HA3GLG	
		802	3890R-H802W	O	BOX	DV7311E4M HA3GLG SWW3-A 0.870	
		803	3920R-E066A	O	PACKING,CASING	DV7000 0.02 68 EPS 10 1165 238	
		804	292-053B	O	BAG	SOFT(MIDI)	NSP
		808	841-0021	O	BATTERY,MN	ER03X HI WATT 1.5V .MA/H AAA	
		810	6851RP0003N	O	CABLE ASSY,RF	DVD CABLE ASSY,RCA USING AREA	
		811	6611R1G001A	O	PLUG ASSY	1WAY YELLOW GLOBAL	
		812	6611R2G001A	O	PLUG ASSY	2WAY RED/WHITE GLOBAL	
<b>.REMOTE CONTROL SECTION</b>							
		900	6711R1P063C	O	REMOTE CONTROLLER ASSEMBLY	N6 DV7311E4L HA3GLG NO BRAND	

# **ELECTRICAL SECTION**


S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
<b>CAPACITOR</b>							
⚠		C101	624-088S	O	CAPACITOR,DRAWING	MPX104K ETR/EUROPTRONIC BULK	
		C102	624-088S	O	CAPACITOR,DRAWING	MPX104K ETR/EUROPTRONIC BULK	
		C103	0CE686CU611	O	CAPACITOR,AL.ELECTROLYTIC	68UF SHL,SD 400V M FL BK7.5	
		C104	624-085D	O	CAPACITOR	CE 47UF/50V KME (SMPS)	
		C106	0CE1064F638	O	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C107	0CG2220U630	O	CAPACITOR,SEMI CERAMIC	2200 PF 400V M E R (NK,AD,SD)	
		C108	0CQ4732K409	O	CAPACITOR,FIXED FILM	0.047UF S 50V J PE TP	
		C109	0CE108BF630	O	CAPACITOR,FIXED ELECTROLYTIC	1000UF KME 16V M FM5 BULK	
		C110	0CN4730K948	O	CAPACITOR,FIXED TUBULAR(High d	0.047UF D 50V 80%,-20% F(Y5V)	
		C112	0CE3376D638	O	CAPACITOR,ELECTROLYTIC	330UF SMS 10V M FM5 TP5	
		C113	0CG1020U630	O	CAPACITOR,SEMI CERAMIC	1000PF 400V M E(Z5U) R	
		C115	0CE3366K638	O	CAPACITOR,FIXED ELECTROLYTIC	33UF SMS,SG 50V 20% FM5 TP 5	
		C116	0CE477BH630	O	CAPACITOR,AL.ELECTROLYTIC	470UF KME TYPE 25V M FM5 BULK	
		C118	0CE1074F638	O	CAPACITOR,ELECTROLYTIC	100U SRA 16V M FM5 TP(5)	
		C119	624-087G	O	CAPACITOR	HIGH-VOL 68PF/1KV SMPS SAMHWA	
		C120	0CE1074F638	O	CAPACITOR,ELECTROLYTIC	100U SRA 16V M FM5 TP(5)	
		C121	0CE2276F638	O	CAPACITOR,ELECTROLYTIC	220U SMS 16V M FM5 TP(5)	
		C122	624-085D	O	CAPACITOR	CE 47UF/50V KME (SMPS)	
		C123	0CE108BF630	O	CAPACITOR,FIXED ELECTROLYTIC	1000UF KME 16V M FM5 BULK	
		C124	0CE337CH618	O	CAPACITOR,FIXED ELECTROLYTIC	330UF SHL,SD 25V 20% FL TP 5	
		C126	0CQ1031Y519	O	CAPACITOR,POLYESTER	0.01UF D 630V K PE NI TP	
		C128	0CQ1042K409	O	CAPACITOR,FIXED FILM	0.1UF S 50V J PE TP	
		C129	0CE1074F638	O	CAPACITOR,ELECTROLYTIC	100U SRA 16V M FM5 TP(5)	
		C130	0CE1074F638	O	CAPACITOR,ELECTROLYTIC	100U SRA 16V M FM5 TP(5)	
		C131	0CE1074F638	O	CAPACITOR,ELECTROLYTIC	100U SRA 16V M FM5 TP(5)	
		C137	0CE3376D638	O	CAPACITOR,ELECTROLYTIC	330UF SMS 10V M FM5 TP5	
		C201	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C202	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C203	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C204	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C205	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C206	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C207	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C208	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C209	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C210	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C211	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C212	0CH1473H942	O	CAPA,CHIP CERAMIC M/L H.D F/S	0.0470UF 25V Z Y5V(F) 1608 R/T	
		C213	0CH1223K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.022UF 50V Z Y5V(F) 1508 R/TP	
		C214	0CH4561K412	O	CAPACITOR,FIXED CERAMIC(High d	560PF 50V 5% NP0 1608 R/TP	
		C215	0CH4561K412	O	CAPACITOR,FIXED CERAMIC(High d	560PF 50V 5% NP0 1608 R/TP	
		C216	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C217	0CH4120K412	O	CHIP CAPA CERAMIC M/L T.C F/S	12P 50V J COG 1.6X0.8 R/TP	
		C218	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C219	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C220	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C221	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C222	0CH1682K562	O	CAPACITOR,CHIP[CERAMIC M/L HD	6800P 50V K X7R 1.6X0.8 R/TP	
		C223	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C224	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C225	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C226	0CH4560K412	O	CAPA,CHIP CERAMIC M/L T.C F/S	56P 50V J COG 1.6X0.8 R/TP	
		C227	0CH4561K412	O	CAPACITOR,FIXED CERAMIC(High d	560PF 50V 5% NP0 1608 R/TP	
		C228	0CH4561K412	O	CAPACITOR,FIXED CERAMIC(High d	560PF 50V 5% NP0 1608 R/TP	
		C229	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C230	0CH4101K412	O	CHIP CAPA CERAMIC M/L T.C F/S	100P 50V J COG 1.6X0.8 R/TP	
		C232	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C233	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
		C234	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C236	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C237	0CH4681K412	O	CAPACITOR,FIXED CERAMIC(High d	680PF 50V 5% NP0 1608 R/TP	
		C238	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C239	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C241	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C242	0CH1102K562	O	CAPACITOR,FIXED CERAMIC(Temp.c	1000PF 50V 10% X7R(X) 1608 R/T	
		C245	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C246	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C247	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C248	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C251	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C252	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C253	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C254	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C255	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C256	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C257	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C258	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C259	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C260	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C261	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C262	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C263	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C264	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C265	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C266	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C267	0CH1333K562	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.033UF 50V K X7R(X) 1508 R/TP	
		C268	0CH1822K562	O	CAPACITOR,FIXED CERAMIC(Temp.c	8200PF 50V 10% X7R(X) 1608 R/T	
		C269	0CH4560K412	O	CAPA,CHIP CERAMIC M/L T.C F/S	56P 50V J COG 1.6X0.8 R/TP	
		C270	0CH4270K412	O	CAPACITOR,CHIP[CERAMIC M/L TC	27PF 50V J NP0 1608 R/TP	
		C271	0CH4270K412	O	CAPACITOR,CHIP[CERAMIC M/L TC	27PF 50V J NP0 1608 R/TP	
		C273	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C275	0CH4471K412	O	CAPACITOR,CHIP[CERAMIC M/L TC	470PF 50V J NP0 1508 R/TP	
		C276	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C277	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C278	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C279	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C280	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C281	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C282	0CH1103K562	O	CAPACITOR,FIXED CERAMIC(Temp.c	0.01UF 50V 10% X7R(X) 1608 R/T	
		C283	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C284	0CH1222K562	O	CAPACITOR,CHIP[CERAMIC M/L HD	2200PF 50V K X7R(X) 1608 R/TP	
		C285	0CH1222K562	O	CAPACITOR,CHIP[CERAMIC M/L HD	2200PF 50V K X7R(X) 1608 R/TP	
		C286	0CH1682K562	O	CAPACITOR,CHIP[CERAMIC M/L HD	6800P 50V K X7R 1.6X0.8 R/TP	
		C287	0CH4681K412	O	CAPACITOR,FIXED CERAMIC(High d	680PF 50V 5% NP0 1608 R/TP	
		C290	0CH1333K562	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.033UF 50V K X7R(X) 1508 R/TP	
		C291	0CH4680K412	O	CAPACITOR,CHIP[CERAMIC M/L TC	68P 50V J COG 1.6X0.8 R/TP	
		C292	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C293	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C294	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C295	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C296	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C297	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C298	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C299	0CH4101K412	O	CHIP CAPA CERAMIC M/L T.C F/S	100P 50V J COG 1.6X0.8 R/TP	
		C2A0	0CH4101K412	O	CHIP CAPA CERAMIC M/L T.C F/S	100P 50V J COG 1.6X0.8 R/TP	
		C2B0	0CH4331K412	O	CAPACITOR,CHIP[CERAMIC M/L TC	330P 50V J COG 1.6X0.8 R/TP	
		C2C0	0CH4121K412	O	CAPACITOR,CHIP[CERAMIC M/L TC	120P 50V J COG 1.6X0.8 R/TP	
		C2D0	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
		C2F0	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2G0	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2H0	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2J0	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C2K0	0CH1683F942	O	CAPACITOR,FIXED CERAMIC(Temp.c	0.068UF 16V 80%,-20% Y5V(F) 16	
		C2L0	0CH4561K412	O	CAPACITOR,FIXED CERAMIC(High d	560PF 50V 5% NP0 1608 R/TP	
		C2M0	0CH4561K412	O	CAPACITOR,FIXED CERAMIC(High d	560PF 50V 5% NP0 1608 R/TP	
		C401	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C402	0CE1064F638	O	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C403	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C404	0CE1064F638	O	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C410	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C411	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C412	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C413	0CH4271K412	O	CAPACITOR,FIXED CERAMIC(HIGH D	270PF 50V 5% NP0 1608 R/TP	
		C414	0CH4271K412	O	CAPACITOR,FIXED CERAMIC(HIGH D	270PF 50V 5% NP0 1608 R/TP	
		C415	0CH1102K562	O	CAPACITOR,FIXED CERAMIC(Temp.c	1000PF 50V 10% X7R(X) 1608 R/T	
		C416	0CH4271K412	O	CAPACITOR,FIXED CERAMIC(HIGH D	270PF 50V 5% NP0 1608 R/TP	
		C417	0CH1392K562	O	CAPACITOR,FIXED CERAMIC(Temp.c	3900PF 50V K Z5U(E) 1608 R/TP	
		C418	0CH4271K412	O	CAPACITOR,FIXED CERAMIC(HIGH D	270PF 50V 5% NP0 1608 R/TP	
		C419	0CH1102K562	O	CAPACITOR,FIXED CERAMIC(Temp.c	1000PF 50V 10% X7R(X) 1608 R/T	
		C420	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C422	0CH1392K562	O	CAPACITOR,FIXED CERAMIC(Temp.c	3900PF 50V K Z5U(E) 1608 R/TP	
		C423	0CE2264F638	O	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C424	0CE2264F638	O	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C425	0CE2264F638	O	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C426	0CE2264F638	O	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C427	0CE2264F638	O	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C428	0CE2264F638	O	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C429	0CE2264F638	O	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C430	0CE2264F638	O	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C431	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C432	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C433	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C434	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C435	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C436	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C437	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C501	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C502	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C503	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C504	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C505	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C508	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C509	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C510	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C511	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C512	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C513	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C514	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C515	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C516	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C517	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C518	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C519	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C520	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C522	0CH4270K412	O	CAPACITOR,CHIP[CERAMIC M/L TC	27PF 50V J NP0 1608 R/TP	
		C523	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C524	0CH4101K412	O	CHIP CAPA CERAMIC M/L T.C F/S	100P 50V J COG 1.6X0.8 R/TP	
		C525	0CH4101K412	O	CHIP CAPA CERAMIC M/L T.C F/S	100P 50V J COG 1.6X0.8 R/TP	

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
		C526	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C527	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C528	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C529	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C533	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C534	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C535	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C536	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C537	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C538	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C539	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C540	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C541	0CH4040K012	O	CAPACITOR,FIXED CERAMIC(High d	4PF 50V 0.25 pF NP0 1608 R/TP	
		C542	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C545	0CH4221K412	O	CAPACITOR,CHIP[CERAMIC M/L TC	220P 50V J COG 1.6X0.8 R/TP	
		C546	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C548	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C552	0CH4221K412	O	CAPACITOR,CHIP[CERAMIC M/L TC	220P 50V J COG 1.6X0.8 R/TP	
		C554	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C556	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C557	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C558	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C559	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C560	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C561	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C562	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C563	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C564	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C565	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C566	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C567	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C568	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C569	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C570	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C571	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C572	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C573	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C574	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C575	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C576	0CE1054K638	O	CAPACITOR,ELECTROLYTIC	1.0M SRA/SS50V M FM5 TP(5)	
		C577	0CE108CC610	O	CAPACITOR,FIXED ELECTROLYTIC	1000UF SHL,SD 6.3V 20% BULK FL	
		C578	0CE2264F638	O	CAPACITOR,ELECTROLYTIC	22M SRA 16V M FM5 TP(5)	
		C579	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C902	0CE1064F638	O	CAPACITOR,ELECTROLYTIC	10M SRA 16V M FM5 TP(5)	
		C906	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C907	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C908	0CE2274C638	O	CAPACITOR,ELECTROLYTIC	220M SRA 6.3V M FM5 TP(5)	
		C909	0CE4764J638	O	CAPACITOR,AL.ELECTROLYTIC	47UF SRA,SS 35V M FM5 TP 5	
		C910	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C911	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		C912	0CE4764F638	O	CAPACITOR,ELECTROLYTIC	47M SRA/SS 16V M FM5 TP(5)	
		C913	0CH1104K942	O	CAPACITOR,CHIP[CERAMIC M/L HD	0.1UF 50V Z Y5V(F) 1508 R/TP	
		CN401	561-711O	O	CONNECTOR (CIRC),WAFER	GIL-S-15P-S2T2-EF LG CABLE 15P	
		CN903	561-712D	O	CONNECTOR (CIRC),WAFER	GIL-S-04P-S2L2-EF LG CABLE 4PI	
<b>DIODE&amp;DIGITRON</b>							
		D100	0DD221009AA	O	DIODE,RECTIFIERS	ERA22-10 KFLB,TP ,R T/P,FUJI	
		D102	0DR158220AA	O	DIODE,RECTIFIER	1N5822 BK RECTRON DO201AD 40V	
		D103	0DR310000AA	O	DIODE,RECTIFIERS	RU3YXLF-C1 BK SANKEN D4 100V 2	
		D104	0DD010009AC	O	DIODE	EU01W(R-FORM) TP SANKEN	
		D106	0DR104009AB	O	DIODE,RECTIFIER	RL104 R. TP GULF SEMICONDUCTOR	

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
		D107	0DD010009AC	O	DIODE	EU01W(R-FORM) TP SANKEN	
		D108	0DD010009AC	O	DIODE	EU01W(R-FORM) TP SANKEN	
		D109	0DR310000AA	O	DIODE,RECTIFIERS	RU3YXLF-C1 BK SANKEN D4 100V 2	
		D110	0DR104009BA	O	DIODE,RECTIFIER	RL104F TP RECTRON NON 400V 1A	
		D111	0DRRE00029A	O	DIODE,RECTIFIERS	1N17 RECTRON TP NON 20V 1A 20	
		D112	0DR158220AA	O	DIODE,RECTIFIER	1N5822 BK RECTRON DO201AD 40V	
		D201	0DS202009CA	O	DIODE,SWITCHING	DAN202K TP ROHM KOREA SOT23 80	
		D202	0DS202009CA	O	DIODE,SWITCHING	DAN202K TP ROHM KOREA SOT23 80	
		D401	0DS202009CA	O	DIODE,SWITCHING	DAN202K TP ROHM KOREA SOT23 80	
		D402	0DS202009CA	O	DIODE,SWITCHING	DAN202K TP ROHM KOREA SOT23 80	
		DIG901	6302R-V205A	O	DIGITRON	HNV-06SC03T SS SDI SEG VFD DVD	
<b>FUSE</b>							
		F101	0FS1601B51D	O	FUSE,SLOW BLOW	1600MA 250 V 5.2X20 CY/GL KS/J	
<b>IC</b>							
		IC01	0IXL953615A	O	IC,XILINX	XC9536-15VQ44C 44P VQFP BK CPL	
		IC101	0IPMGIH004A	O	IC,POWER MANAGEMENT	ICE2B0565 INFINEON 8PIN DIP ST	
		IC103	0IPMGFA017A	O	IC,POWER MANAGEMENT	KA78R12TSTU FAIRCHILD 4P TO-22	
		IC104	0IKE431000A	O	IC,KEC	KIA431 3 PIN TP	
		IC105	0IPMGFA016A	O	IC,POWER MANAGEMENT	KA78R08TSTU FAIRCHILD 4P TO-22	
		IC106	0IPMGFA015A	O	IC,POWER MANAGEMENT	KA78R33TSTU FAIRCHILD 4P TO-22	
		IC107	0IPMGFA015A	O	IC,POWER MANAGEMENT	KA78R33TSTU FAIRCHILD 4P TO-22	
		IC201	0ILNRMA007A	O	IC,LINEAR	MN103S26EDC-H MATSUSHITA LQFP1	
		IC202	0ILNRMA008A	O	IC,LINEAR	AN8703FH-V MATSUSHITA 64PIN QF	
		IC203	0IPRPRH005A	O	IC,PERIPHERALS	BA5810FP ROHM 28PIN HSOP R/TP	
		IC5A1A	6957R-018CQ	O	PROGRAM	DV7311E4L HA3GLG .	
		IC401	0IPRPCI003B	O	IC,PERIPHERALS	CS4391-KZR CIRRUS LOGIC 20 TSS	
		IC402	0IJR458000B	O	IC,JRC	NJM4580M 8,DMP8 TP OP AMP 2K/R	
		IC501	0ILNRLL003A	O	IC,LINEAR	ZIVA-5+P LSI LOGIC 208PIN PQFP	
		IC502	0ICTMHY011A	O	IC,CUSTOMIZED	HS353106 HYNIX 100 TQFP TRAY C	
		IC503	0IMMRHY025A	O	IC,MEMORIES	HY57V643220CT-7 HYUNDAI 86P TS	
		IC504	0IMMRFU002A	O	IC,MEMORIES	MBM29LV160BE90TN FUJITSU 48PIN	
		IC506	0IFA742440F	O	IC,FAIRCHILD	MM74HCT244SJ 20P SOIC TP 3-STA	
		IC507	0ISS240210A	O	IC,SAMSUNG ELECTRONICS	KS24C021CS SOP8 TP EEPROM 2K L	
		IC513	0IPRPMT002A	O	IC,PERIPHERALS	MM1510XNRE MITSUMI 6,SOT-26A R	
		IC901	0IMCRHY070A	O	IC,MICRO CONTROLLER	GMS81C2012-HI022 HYNIX 64 LOFP	
		IC902	0IKE704200B	O	IC,KEC	KIA7042P 3P 4.2V RESET(TAPING)	
<b>JACK</b>							
		JK401	6612JH003LD	O	JACK,RCA	RCA-701A-02(SILVER) YUQIU	
<b>COIL&amp;FILTER&amp;LED</b>							
		BC101	636-004C	O	FILTER(CIRC),EMC	BEAD CORE BFS3550R2FD8,R T/P	
		F401	6200HJC901A	O	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2-5K	
		F402	6200HJC901A	O	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2-5K	
		F403	6200HJC901A	O	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2-5K	
		F651	6200HJC901A	O	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2-5K	
		F652	6200HJC901A	O	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2-5K	
		F653	6200HJC901A	O	FILTER(CIRC),EMC	CFI06B1H101MF SAMHWA TP 2-5K	
		L101	616-145M	O	FILTER(CIRC),DRAWING	V-04350 LS FUTAI BULK =616-145	
		L102	633-088D	O	COIL,CHOKE	CHOCK ,20UH KWANGSUNG LEAD CU	
		L103	633-088G	O	COIL,CHOKE	CHOCK(22MH) 5MM TOKO TP	
		L105	633-088G	O	COIL,CHOKE	CHOCK(22MH) 5MM TOKO TP	
		L201	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L202	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L203	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L205	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L206	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L208	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L501	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L503	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L505	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L509	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
		L510	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L511	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L512	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L513	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L514	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L515	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L516	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L517	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L518	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L519	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L520	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L521	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		L901	6200HJC102A	O	FILTER(CIRC),EMC	HB-1M2012-102JT CERATECH TP	
		LED01	0DL111209CA	O	LED	LTL-1CHEES-UA TP LITEON RED =0	
		LED02	0DL111209EA	O	LED	LTL-1CHKES-UA TP LITEON GREEN	
		LED03	0DL111209CA	O	LED	LTL-1CHEES-UA TP LITEON RED =0	
<b>TRANSFORMER</b>							
		T101	6170RNGW05B	O	TRANSFORMER,SMPS[COIL]	EER2828 SOOJUNG DVD SLIM	
<b>TRANSISTOR</b>							
		Q101	0TR319809AC	O	TRANSISTOR	KTC3198-TP-BL (KTC1815)KEC	
		Q102	0TR105009AD	O	TRANSISTOR,BIPOLARS	KRA105M KEC TP TO92 50V 100MA	
		Q107	0TR127309AA	O	TRANSISTOR	KTA1273-TP-Y (KTA966A)KEC	
		Q108	0TR319809AC	O	TRANSISTOR	KTC3198-TP-BL (KTC1815)KEC	
		Q201	0TR103709BB	O	TRANSISTOR	2SA1037K-Q CHIP ROHM-J	
		Q202	0TR103709BB	O	TRANSISTOR	2SA1037K-Q CHIP ROHM-J	
		Q207	0TFPH80002B	O	TRANSISTOR,FETS	2N7002E PHILIPS R/TP SOT23 60V	
		Q208	0TFPH80002B	O	TRANSISTOR,FETS	2N7002E PHILIPS R/TP SOT23 60V	
		Q209	0TR103009AA	O	TRANSISTOR	CHIP KRC103S-T1(NC)22-22 KEC	
		Q210	0TR103009AA	O	TRANSISTOR	CHIP KRC103S-T1(NC)22-22 KEC	
		Q211	0TR103009AA	O	TRANSISTOR	CHIP KRC103S-T1(NC)22-22 KEC	
		Q401	0TR103709BB	O	TRANSISTOR	2SA1037K-Q CHIP ROHM-J	
		Q402	0TR387509AC	O	TRANSISTOR	CHIP KTC3875S-GR-T1(ALG) KEC	
		Q404	0TR387509AC	O	TRANSISTOR	CHIP KTC3875S-GR-T1(ALG) KEC	
		Q405	0TR103009AC	O	TRANSISTOR	KRA103S-T1(PC)22-22 CHIP KEC	
		Q406	0TR103009AC	O	TRANSISTOR	KRA103S-T1(PC)22-22 CHIP KEC	
		Q651	0TR103009AE	O	TRANSISTOR,BIPOLARS	KRC103M(KRC1203) KEC TP TO92M	
		Q901	0TR103009AA	O	TRANSISTOR	CHIP KRC103S-T1(NC)22-22 KEC	
		Q902	0TR103009AA	O	TRANSISTOR	CHIP KRC103S-T1(NC)22-22 KEC	
<b>RESISTOR</b>							
		F102	0RF0200F708	O	RESISTOR,VARIABLE[CARBON FILM]	0.2 OHM 1/6 W 10% TA26	
		R01	0RD3900F608	O	RESISTOR,FIXED CARBON FILM	390 OHM 1/6 W 5% TA26	
		R02	0RD3900F608	O	RESISTOR,FIXED CARBON FILM	390 OHM 1/6 W 5% TA26	
		R03	0RD3900F608	O	RESISTOR,FIXED CARBON FILM	390 OHM 1/6 W 5% TA26	
		R100	0RD1504H632	O	RESISTOR,FIXED CARBON FILM	1.5M OHM 1/2 W 5.00% MF10	
		R101	614-007A	O	RESISTOR	2.7/2W CEMENT SMPS V	
		R103	0RS5602K619	O	RESISTOR,FIXED METAL OXIDE FIL	56K OHM 2 W 5.00% TR	
		R107	0RS0600K619	O	RESISTOR,FIXED METAL OXIDE FIL	0.6 OHM 2 W 5% TR	
		R109	0RD2203F608	O	RESISTOR,FIXED CARBON FILM	220K OHM 1/6 W 5% TA26	
		R110	0RD2203F608	O	RESISTOR,FIXED CARBON FILM	220K OHM 1/6 W 5% TA26	
		R112	0RD0472F608	O	RESISTOR,FIXED CARBON FILM	47 OHM 1/6 W 5% TA26	
		R114	0RD1003F608	O	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26	
		R115	0RD0182F608	O	RESISTOR,FIXED CARBON FILM	18 OHM 1/6 W 5.00% TA26	
		R116	0RD0182F608	O	RESISTOR,FIXED CARBON FILM	18 OHM 1/6 W 5.00% TA26	
		R120	0RD4702F608	O	RESISTOR,FIXED CARBON FILM	47K OHM 1/6 W 5% TA26	
		R121	0RD1201F608	O	RESISTOR,FIXED CARBON FILM	1.2K OHM 1/6 W 5% TA26	
		R122	0RD2200F608	O	RESISTOR,FIXED CARBON FILM	220 OHM 1/6 W 5% TA26	
		R123	0RD1001F608	O	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
		R124	0RD1800F608	O	RESISTOR,FIXED CARBON FILM	180 OHM 1/6 W 5% TA26	
		R125	0RD3901F608	O	RESISTOR,FIXED CARBON FILM	3.9K OHM 1/6 W 5% TA26	
		R126	0RD1001F608	O	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
		R127	0RN3601E408	O	RESISTOR, FIXED METAL FILM	3.6K OHM 1/8 W 1.00% TA26	
		R128	0RN3301E408	O	RESISTOR, FIXED METAL FILM	3.3K OHM 1/8 W 1.00% TA26	
		R130	0RD1002F608	O	RESISTOR, FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
		R131	0RD2201F608	O	RESISTOR, FIXED CARBON FILM	2.2K OHM 1/6 W 5% TA26	
		R132	0RD1002F608	O	RESISTOR, FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	
		R140	0RD1001F608	O	RESISTOR, FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
		R141	0RD1001F608	O	RESISTOR, FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
		R142	0RD1001F608	O	RESISTOR, FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	
		R145	0RD4700F608	O	RESISTOR, FIXED CARBON FILM	470 OHM 1/6 W 5% TA26	
		R201	0RH0000C622	O	RESISTOR, METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R202	0RH1003C622	O	RESISTOR, METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R203	0RH0912C622	O	RESISTOR, METAL GLAZED(CHIP)	91 OHM 1 / 16 W 1608 5.00% D	
		R204	0RH1002C622	O	RESISTOR, METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R205	0RH1002C622	O	RESISTOR, METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R208	0RH0272C622	O	RESISTOR, METAL GLAZED(CHIP)	27 OHM 1 / 16 W 1608 5.00% D	
		R210	0RH0221D622	O	RESISTOR, METAL GLAZED(CHIP)	2.2 OHM 1 / 10 W 2012 5.00% D	
		R212	0RH0272C622	O	RESISTOR, METAL GLAZED(CHIP)	27 OHM 1 / 16 W 1608 5.00% D	
		R213	0RH0221D622	O	RESISTOR, METAL GLAZED(CHIP)	2.2 OHM 1 / 10 W 2012 5.00% D	
		R214	0RH1001C622	O	RESISTOR, METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5.00% D	
		R216	0RH7501C622	O	RESISTOR, METAL GLAZED(CHIP)	7.5K OHM 1 / 16 W 1608 5.00% D	
		R217	0RH1002C622	O	RESISTOR, METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R218	0RH0000C622	O	RESISTOR, METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R219	0RH0000C622	O	RESISTOR, METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R220	0RH4701C622	O	RESISTOR, METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R222	0RH2202C422	O	RESISTOR, METAL GLAZED(CHIP)	22K OHM 1 / 16 W 1608 1.00% D	
		R224	0RH1004C622	O	RESISTOR, METAL GLAZED(CHIP)	1M OHM 1 / 16 W 1608 5.00% D	
		R225	0RH1004C622	O	RESISTOR, METAL GLAZED(CHIP)	1M OHM 1 / 16 W 1608 5.00% D	
		R226	0RH2201C622	O	RESISTOR, METAL GLAZED(CHIP)	2.2K OHM 1 / 16 W 1608 5.00% D	
		R228	0RH0000C622	O	RESISTOR, METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R231	0RH0000C622	O	RESISTOR, METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R233	0RH1001C622	O	RESISTOR, METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5.00% D	
		R234	0RH1002C622	O	RESISTOR, METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R235	0RH2202C622	O	RESISTOR, METAL GLAZED(CHIP)	22K OHM 1 / 16 W 1608 5.00% D	
		R236	0RH2202C622	O	RESISTOR, METAL GLAZED(CHIP)	22K OHM 1 / 16 W 1608 5.00% D	
		R237	0RH4701C622	O	RESISTOR, METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R238	0RH1002C622	O	RESISTOR, METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R239	0RH8201C622	O	RESISTOR, METAL GLAZED(CHIP)	8.2K OHM 1 / 16 W 1608 5.00% D	
		R240	0RH1002C622	O	RESISTOR, METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R241	0RH0000C622	O	RESISTOR, METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R242	0RH0000C622	O	RESISTOR, METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R243	0RH8201C622	O	RESISTOR, METAL GLAZED(CHIP)	8.2K OHM 1 / 16 W 1608 5.00% D	
		R244	0RH0000C622	O	RESISTOR, METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R245	0RH0000C622	O	RESISTOR, METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R246	0RH0000C622	O	RESISTOR, METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R247	0RH7501C622	O	RESISTOR, METAL GLAZED(CHIP)	7.5K OHM 1 / 16 W 1608 5.00% D	
		R248	0RH8201C622	O	RESISTOR, METAL GLAZED(CHIP)	8.2K OHM 1 / 16 W 1608 5.00% D	
		R249	0RH0000C622	O	RESISTOR, METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R251	0RH1002C622	O	RESISTOR, METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R252	0RH1002C622	O	RESISTOR, METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R253	0RH1002C622	O	RESISTOR, METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R254	0RH1002C622	O	RESISTOR, METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R255	0RH1002C622	O	RESISTOR, METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R256	0RH1002C622	O	RESISTOR, METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R257	0RH1502C622	O	RESISTOR, METAL GLAZED(CHIP)	15K OHM 1 / 16 W 1608 5.00% D	
		R258	0RH1502C622	O	RESISTOR, METAL GLAZED(CHIP)	15K OHM 1 / 16 W 1608 5.00% D	
		R259	0RH1502C622	O	RESISTOR, METAL GLAZED(CHIP)	15K OHM 1 / 16 W 1608 5.00% D	
		R260	0RH1502C622	O	RESISTOR, METAL GLAZED(CHIP)	15K OHM 1 / 16 W 1608 5.00% D	
		R262	0RH1004C622	O	RESISTOR, METAL GLAZED(CHIP)	1M OHM 1 / 16 W 1608 5.00% D	
		R263	0RH1502C622	O	RESISTOR, METAL GLAZED(CHIP)	15K OHM 1 / 16 W 1608 5.00% D	
		R264	0RH0000C622	O	RESISTOR, METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
		R266	0RH1001C622	O	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5.00% D	
		R267	0RH1001C622	O	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5.00% D	
		R268	0RH1002C622	O	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R269	0RH1004C622	O	RESISTOR,METAL GLAZED(CHIP)	1M OHM 1 / 16 W 1608 5.00% D	
		R270	0RH2201C622	O	RESISTOR,METAL GLAZED(CHIP)	2.2K OHM 1 / 16 W 1608 5.00% D	
		R271	0RH4701C622	O	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R272	0RH4701C622	O	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R273	0RH2202C622	O	RESISTOR,METAL GLAZED(CHIP)	22K OHM 1 / 16 W 1608 5.00% D	
		R274	0RH5602C622	O	RESISTOR,METAL GLAZED(CHIP)	56K OHM 1 / 16 W 1608 5.00% D	
		R275	0RH2202C622	O	RESISTOR,METAL GLAZED(CHIP)	22K OHM 1 / 16 W 1608 5.00% D	
		R276	0RH5602C622	O	RESISTOR,METAL GLAZED(CHIP)	56K OHM 1 / 16 W 1608 5.00% D	
		R277	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R278	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R279	0RH0912C622	O	RESISTOR,METAL GLAZED(CHIP)	91 OHM 1 / 16 W 1608 5.00% D	
		R280	0RH4701C622	O	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R281	0RH4701C622	O	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R282	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R283	0RH1000C622	O	RESISTOR,METAL GLAZED(CHIP)	100 OHM 1 / 16 W 1608 5.00% D	
		R285	0RH8201C622	O	RESISTOR,METAL GLAZED(CHIP)	8.2K OHM 1 / 16 W 1608 5.00% D	
		R286	0RH8201C622	O	RESISTOR,METAL GLAZED(CHIP)	8.2K OHM 1 / 16 W 1608 5.00% D	
		R287	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R288	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R289	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R291	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R292	0RH1002C622	O	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R293	0RH1002C622	O	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R294	0RH1002C622	O	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R295	0RH1001C622	O	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5.00% D	
		R296	0RH6801C622	O	RESISTOR,METAL GLAZED(CHIP)	6.8K OHM 1 / 16 W 1608 5.00% D	
		R297	0RH1001C622	O	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5.00% D	
		R298	0RH1002C622	O	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R299	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R2A0	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R2B0	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R2C0	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R2D0	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R2E0	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R2F0	0RH0272C622	O	RESISTOR,METAL GLAZED(CHIP)	27 OHM 1 / 16 W 1608 5.00% D	
		R2G0	0RH0272C622	O	RESISTOR,METAL GLAZED(CHIP)	27 OHM 1 / 16 W 1608 5.00% D	
		R2H0	0RH1503C622	O	RESISTOR,METAL GLAZED(CHIP)	150K OHM 1 / 16 W 1608 5.00% D	
		R2J0	0RH1503C622	O	RESISTOR,METAL GLAZED(CHIP)	150K OHM 1 / 16 W 1608 5.00% D	
		R401	0RH1002C622	O	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R402	0RH5601C622	O	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5.00% D	
		R403	0RH1002C622	O	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R405	0RH1801C622	O	RESISTOR,METAL GLAZED(CHIP)	1.8K OHM 1 / 16 W 1608 5.00% D	
		R406	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R407	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R408	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R409	0RH3300C622	O	RESISTOR,METAL GLAZED(CHIP)	330 OHM 1 / 16 W 1608 5.00% D	
		R410	0RH2200C622	O	RESISTOR,METAL GLAZED(CHIP)	220 OHM 1 / 16 W 1608 5.00% D	
		R411	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R414	0RJ9101C677	O	RESISTOR,METAL GLAZED(CHIP)	9.1K OHM 1/16 W 5% 1608 R/TP	
		R415	0RJ9101C677	O	RESISTOR,METAL GLAZED(CHIP)	9.1K OHM 1/16 W 5% 1608 R/TP	
		R416	0RJ9101C677	O	RESISTOR,METAL GLAZED(CHIP)	9.1K OHM 1/16 W 5% 1608 R/TP	
		R417	0RJ9101C677	O	RESISTOR,METAL GLAZED(CHIP)	9.1K OHM 1/16 W 5% 1608 R/TP	
		R418	0RH1801C622	O	RESISTOR,METAL GLAZED(CHIP)	1.8K OHM 1 / 16 W 1608 5.00% D	
		R419	0RH4701C622	O	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R420	0RH3300C622	O	RESISTOR,METAL GLAZED(CHIP)	330 OHM 1 / 16 W 1608 5.00% D	
		R421	0RH1002C622	O	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R422	0RH1002C622	O	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
		R423	0RH1801C622	O	RESISTOR,METAL GLAZED(CHIP)	1.8K OHM 1 / 16 W 1608 5.00% D	
		R424	0RH1801C622	O	RESISTOR,METAL GLAZED(CHIP)	1.8K OHM 1 / 16 W 1608 5.00% D	
		R425	0RH2200C622	O	RESISTOR,METAL GLAZED(CHIP)	220 OHM 1 / 16 W 1608 5.00% D	
		R426	0RH0102C622	O	RESISTOR,METAL GLAZED(CHIP)	10 OHM 1 / 16 W 1608 5.00% D	
		R427	0RH5601C622	O	RESISTOR,METAL GLAZED(CHIP)	5.6K OHM 1 / 16 W 1608 5.00% D	
		R428	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R429	0RH4700C622	O	RESISTOR,METAL GLAZED(CHIP)	470 OHM 1 / 16 W 1608 5.00% D	
		R430	0RH0182C622	O	RESISTOR,METAL GLAZED(CHIP)	18 OHM 1 / 16 W 1608 5.00% D	
		R431	0RH4700C622	O	RESISTOR,METAL GLAZED(CHIP)	470 OHM 1 / 16 W 1608 5.00% D	
		R432	0RH3901C622	O	RESISTOR,METAL GLAZED(CHIP)	3.9K OHM 1 / 16 W 1608 5.00% D	
		R433	0RH0752C622	O	RESISTOR,METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 5.00% D	
		R434	0RH1001C622	O	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5.00% D	
		R436	0RH1001C622	O	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5.00% D	
		R437	0RH1001C622	O	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5.00% D	
		R438	0RH1001C622	O	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5.00% D	
		R439	0RH1001C622	O	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5.00% D	
		R440	0RH1001C622	O	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5.00% D	
		R441	0RH1001C622	O	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5.00% D	
		R442	0RH1001C622	O	RESISTOR,METAL GLAZED(CHIP)	1K OHM 1 / 16 W 1608 5.00% D	
		R443	0RH1002C622	O	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R444	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R445	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R446	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R447	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R448	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R449	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R451	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R452	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R453	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R455	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R456	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R501	0RH1181C422	O	RESISTOR,METAL GLAZED(CHIP)	1.18K OHM 1 / 16 W 1608 1.00%	
		R504	0RH4701C622	O	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R505	0RH3301C622	O	RESISTOR,METAL GLAZED(CHIP)	3.3K OHM 1 / 16 W 1608 5.00% D	
		R506	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R507	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R508	0RH1002C622	O	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R509	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R510	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R511	0RH0822C622	O	RESISTOR,METAL GLAZED(CHIP)	82 OHM 1 / 16 W 1608 5.00% D	
		R512	0RH0752C622	O	RESISTOR,METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 5.00% D	
		R513	0RH1100C622	O	RESISTOR,METAL GLAZED(CHIP)	110 OHM 1 / 16 W 1608 5.00% D	
		R514	0RH0332C622	O	RESISTOR,METAL GLAZED(CHIP)	33 OHM 1 / 16 W 1608 5.00% D	
		R515	0RH0332C622	O	RESISTOR,METAL GLAZED(CHIP)	33 OHM 1 / 16 W 1608 5.00% D	
		R516	0RH0332C622	O	RESISTOR,METAL GLAZED(CHIP)	33 OHM 1 / 16 W 1608 5.00% D	
		R517	0RH0332C622	O	RESISTOR,METAL GLAZED(CHIP)	33 OHM 1 / 16 W 1608 5.00% D	
		R518	0RH0332C622	O	RESISTOR,METAL GLAZED(CHIP)	33 OHM 1 / 16 W 1608 5.00% D	
		R519	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R521	0RH4701C622	O	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R522	0RH4701C622	O	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R523	0RH4701C622	O	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R524	0RH2201C622	O	RESISTOR,METAL GLAZED(CHIP)	2.2K OHM 1 / 16 W 1608 5.00% D	
		R525	0RH1002C622	O	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R531	0RH4701C622	O	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R532	0RH4701C622	O	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R533	0RH4701C622	O	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R536	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R537	0RH0000C622	O	RESISTOR,METAL GLAZED(CHIP)	0 OHM 1 / 16 W 1608 5.00% D	
		R538	0RH0682C622	O	RESISTOR,METAL GLAZED(CHIP)	68 OHM 1 / 16 W 1608 5.00% D	
		R540	0RH0752C622	O	RESISTOR,METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 5.00% D	

[illegible]

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
		R624	0RH4701C622	O	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R625	0RH0752C622	O	RESISTOR,METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 5.00% D	
		R626	0RH0752C622	O	RESISTOR,METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 5.00% D	
		R627	0RH0752C622	O	RESISTOR,METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 5.00% D	
		R628	0RH0752C622	O	RESISTOR,METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 5.00% D	
		R629	0RH0752C622	O	RESISTOR,METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 5.00% D	
		R642	0RH0222C622	O	RESISTOR,METAL GLAZED(CHIP)	22 OHM 1 / 16 W 1608 5.00% D	
		R643	0RH1201C622	O	RESISTOR,METAL GLAZED(CHIP)	1.2K OHM 1 / 16 W 1608 5.00% D	
		R651	0RD0752F608	O	RESISTOR,FIXED CARBON FILM	75 OHM 1/6 W 5.00% TA26	
		R652	0RD4700F608	O	RESISTOR,FIXED CARBON FILM	470 OHM 1/6 W 5% TA26	
		R653	0RD1003F608	O	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26	
		R654	0RD4700F608	O	RESISTOR,FIXED CARBON FILM	470 OHM 1/6 W 5% TA26	
		R655	0RD0752F608	O	RESISTOR,FIXED CARBON FILM	75 OHM 1/6 W 5.00% TA26	
		R656	0RD1003F608	O	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26	
		R657	0RD2200F608	O	RESISTOR,FIXED CARBON FILM	220 OHM 1/6 W 5% TA26	
		R658	0RD1003F608	O	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26	
		R659	0RD2200F608	O	RESISTOR,FIXED CARBON FILM	220 OHM 1/6 W 5% TA26	
		R901	0RH6800C622	O	RESISTOR,METAL GLAZED(CHIP)	680 OHM 1 / 16 W 1608 5.00% D	
		R902	0RH8200C622	O	RESISTOR,METAL GLAZED(CHIP)	820 OHM 1 / 16 W 1608 5.00% D	
		R903	0RH1201C622	O	RESISTOR,METAL GLAZED(CHIP)	1.2K OHM 1 / 16 W 1608 5.00% D	
		R904	0RH1501C622	O	RESISTOR,METAL GLAZED(CHIP)	1.5K OHM 1 / 16 W 1608 5.00% D	
		R905	0RH2201C622	O	RESISTOR,METAL GLAZED(CHIP)	2.2K OHM 1 / 16 W 1608 5.00% D	
		R906	0RH3301C622	O	RESISTOR,METAL GLAZED(CHIP)	3.3K OHM 1 / 16 W 1608 5.00% D	
		R907	0RH4701C622	O	RESISTOR,METAL GLAZED(CHIP)	4.7K OHM 1 / 16 W 1608 5.00% D	
		R908	0RH1002C622	O	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R909	0RH1002C622	O	RESISTOR,METAL GLAZED(CHIP)	10K OHM 1 / 16 W 1608 5.00% D	
		R910	0RH3301C622	O	RESISTOR,METAL GLAZED(CHIP)	3.3K OHM 1 / 16 W 1608 5.00% D	
		R911	0RH3300C622	O	RESISTOR,METAL GLAZED(CHIP)	330 OHM 1 / 16 W 1608 5.00% D	
		R912	0RH2200C622	O	RESISTOR,METAL GLAZED(CHIP)	220 OHM 1 / 16 W 1608 5.00% D	
		R913	0RH2200C622	O	RESISTOR,METAL GLAZED(CHIP)	220 OHM 1 / 16 W 1608 5.00% D	
		R914	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R915	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R916	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R917	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R918	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R919	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R920	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R921	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R922	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R923	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R924	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R925	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R926	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R927	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R928	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R929	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R930	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R931	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R932	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R933	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R934	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R935	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R936	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R937	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
		R938	0RH1003C622	O	RESISTOR,METAL GLAZED(CHIP)	100K OHM 1 / 16 W 1608 5.00% D	
<b>REMOCON RECEIVER</b>							
		RC901	6712R1038GA	O	REMOTE CONTROLLER RECEIVER	TSOP2438SB1 VISHAY 38KHZ 10.2M	
<b>SENSOR</b>							
		IC102	657-063A	O	SENSOR	LTV-817B,PHOTO COUPLER(LITEON)	

S	AL	LOCA.NO	PART NO(LG)	A	DESCRIPTION	SPECIFICATION	REMARKS
<b>SWITCH</b>							
		SW902	556-219B	O	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5-	
		SW903	556-219B	O	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5-	
		SW904	556-219B	O	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5-	
		SW905	556-219B	O	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5-	
		SW906	556-219B	O	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5-	
		SW907	556-219B	O	SWITCH,TACT	THVV502GAA POSTECH DC 12 V 5-	
<b>CRYSTAL</b>							
		X201	6212AA2169F	O	RESONATOR,CRYSTAL	HC-49S KITELCO 16.934400 MHZ +	
		X501	6212AA2135C	O	RESONATOR,CRYSTAL	HC-49S BUBANG 13.500000 MHZ +/-	
		X901	6212BA3004A	O	RESONATOR,CERAMIC	CSTLS6M00G53-A0 MURATA 6MHZ +/-	
<b>ZENER DIODE</b>							
		ZD101	0DZ560009CJ	O	DIODE,ZENERS	GDZJ5.6B 26MM GRANDE TP26 DO34	
		ZD102	0DZ332609FB	O	DIODE,ZENERS	GDZJ3.3B 26MM GRANDE TP26 DO34	